

IP18XX , IP22XX , IP26XX

MPEG-4 Speed Dome Network Camera



- Full D1 resolution
- Bidirectional Audio
- Powerful IP-Plus Speed Dome Control over IP network
- Virtual System Controller (Keyboard Emulator) for Full control of the Speed Dome
- Integrated Fan and Heater (iCanView240 only)
- High speed operation
 - Max 350°/sec panning, 250°/sec tilting.

Directions

Network cameras are designed for outdoor/indoor use. Don't use them in an environment that exceeds the limited range. Be careful not to cause any physical damage by dropping or throwing the network camera. Especially keep the network camera out of reach from children.

Do not disassemble network camera or After Service Follow-up is not possible.

Use only the AC power adapter which conforms to the specification in data sheet or optionally provided AC power adapter with the network domes.

If you would like to use the Network Domes for security, monitoring, please check the legal regulations within the country.

Note

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generate, use and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into and outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

Warning & Caution for Network Domes

If you fail to read this information and handle the product incorrectly, death or serious injury may occur.

The unit should be installed by trained personnel.

Always stop using when the product emits smoke or abnormal heat.

Never install the product in area exposed to water, oil or gas.

Never install the product on a ceiling that cannot hold its weight.

Never touch the power cord with wet hands.

Clean only with dry cloth.

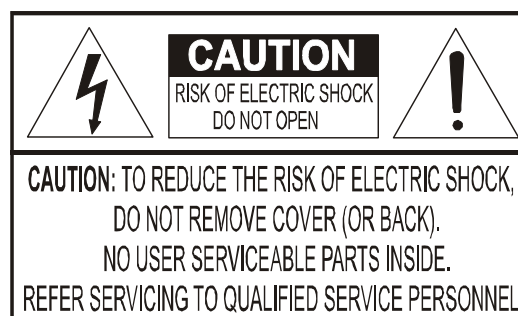
Never install the product in extremely high or low temperature.

Never drop, hit strongly nor vibrate the product.

Never expose the product to direct sunlight or severe ray.

Never touch the front glass of the product.

Never install the product in areas exposed to rain or water



This symbol is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that can cause electric shock..



This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Additional Warning & Caution for Network Domes

If you fail to read this information and handle the product incorrectly, death or serious injury may occur.

Input power:	With Camera - 24V AC 25 watts at 24V AC
Heater:	18watts
Fan:	2watts

The heater activates at +10℃ (±5℃),
deactivates at +15℃ (±5℃)

The fan activates at +45℃ (±5℃),
Deactivates at +35℃ (±5℃)

Never install the product on a ceiling that cannot hold its weight.

Never install the product in area exposed to water, oil or gas.

Revision History

Date	Rev. No	Description
2006-12-06	1.0	Creation of the document

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1. Introduction

1.1. Overview

The Network Domes is a state-of-the-art Speed Dome network camera which transmits synchronized video and audio data in real time with **D1 resolution at full frame rate**. This is possible through MPEG4 CODEC technology, which provides high quality video with highly compressed data streams. The Network Domes can be connected, controlled and monitored from a remote location through an IP connection over internet or intranet. Unlike CCTV or DVR, the Network Domes is easy to install and owner will experience cost and space savings in the installation owing to the state of the art technologies embedded in the system. Based on Embedded Software Solution (Embedded Web Server, Embedded Streaming Server, Network Protocol), the Network Domes ensures unprecedented performance and stability to be an ideal network camera solution for system integration solutions. Network Domes is offered with standard Ethernet interface.

1.2. Features of Network Domes

- 1 channel synchronized real time Video/Audio streaming **MPEG-4 video, ADPCM audio**.
- Bi-directional audio communication
 - Real time audio communication between Network Domes and Client PC
- The viewer assisted **recording and playback functions**
- **World Most Silent Speed Dome IP Camera (Outdoor Type)**
- **1/4 "Sony Ex-view CCD 26x, 18x, 36x / Super HAD CCD 22x, 30x**
- **Filter Changeable Type Day & Night**
- **IP66 water-resistant (Outdoor type only)**
- **220x Zoom (22x Optical with 10x Digital zoom) *Selectable***
 - **26x/18x/36x (with 12 x digital zoom) Sony zoom camera is optional**
 - **30x (with 10x digital zoom) is optional**
- **Max 30 frames/sec (NTSC) and Max 25frames/sec (PAL) @ D1 resolution**
- **Full D1 Resolution with De-interlaced filter**
- **World Most Silent Speed Dome IP Camera (Outdoor Type)**
- **Versatile PTZ control**
 - Client viewer assisted PTZ control,
 - Dedicated virtual system controller for PTZ control on the client
 - Simultaneous connection & control over IP and RS485
- **4 Alarm sensor inputs / 2 relay outputs**
- **Motion detection – Up to 3 motion detection zones. Arbitrary shape motion detection zone**

Motion detection can initiate video recording, which is sent to the user through FTP and/or E-mail.

- **Resolution**

- NTSC: 704x480, 352x240, 176x144. - PAL/SECAM: 704x576, 352x288, 176x144

- **Remote administration control**

- Entire operational parameter set up, Software upgrade

- **Various Mounting Brackets**

- Wall, Pipe, Gooseneck mounting brackets

- Corner mount adaptor, Pole mount adaptor

- **Built-in Fan / Heater**

• Detailed Features of Speed Dome part

World most silent speed dome camera

Adoption of timing belt, specialized gear, and other low-noise-technologies reduced mechanical vibration which significantly enhances durability and quality of the camera. This camera is the perfect match, both indoor and outdoor, for demanding security and monitoring applications.

0.024° dome system accuracy with 1/8 micro step

By adopting 1/8 micro step and twin gear system, the dome camera achieved 0.024° rotational accuracy. It provides excellent precision for delicate control such as preset positions.

Reliable RAM-Material

The mechanical stability achieved by using high quality materials (e.g., stepping motor, slip ring, timing belt and power condenser) improves the durability and life time of the camera. The camera housing is made of fire resistant material (UL grade 94 V-0).

Preset position compensation

It minimizes the effect of low frequency vibration caused by wind or other impact for maintaining precise positioning. It is useful for outdoor surveillance and traffic monitoring applications.

Long life-time Slip Ring (Passed 6 month test of 20million rotations)

Equipped with slip ring that passed 20 millions rotations performed for 6 months.

Protected RS485 terminals. (Against misconnection of the power line)

RS-485 circuit is protected against false connection of the power source for ensured communication channel.

Filter changeable True Day/Night

Automatic IR cut filter ensures near-true color video for day time while providing quality B/W video under low illumination. The efficiency of the monitoring can be improved by using this feature used together with DSS (Digital Slow Shutter). This feature is available only for 18x/26x/36x zoom module.

Hot Keys

This camera supports various hot key functions for ease of control by other controllers or DVRs.

Various Surveillance Functions

Auto Scan continuously repeats movement between two preset positions with various speed and dwell time.

8 Group Tour: Up to 8 Programmable Group tours are supported. Each group can be configured to have up to 60 preset positions with different speed and dwell time

165 Preset positions: Up to 165 programmable preset positions. Each preset position can be labeled by up to 16 characters

8 Patterns: up to 8 user-defined patterns. Each pattern can last up to 60 seconds and can be named with up to 16 characters. Total of 480 second of pattern monitoring is possible.

8 Sectors: Up to 8 user-defined sectors. Each sector can be labeled by up to 16 characters

Max 24 Privacy Masking Zones : Up to 24 user-defined privacy masking zone. Each zone can be labeled by up to 16 characters (18x/26x/36x only)

4 Alarm input and 2 relay out : 4 alarm inputs and 2 relay outputs that can be matched with preset, tours, and patterns for versatile monitoring functions.

High speed Pan & Tilt movement

Maximum speed for the panning and tilting are 350° /sec and 250° /sec, respectively, for preset movement. The high speed will enable quick movement to the spot you want to watch..

200°/S – Manual Operation speed

This camera provides up to 200°/sec of manual speed and it's adjustable from 100°/sec to 200°/sec

1/4" Sony Ex-View CCD

Sony Ex-view HAD CCD for excellent sensitivity and low smear levels(18x/26x/36x only)

Multiple language support

Intelligent Pan/Tilt Controlling

Pan and tilt speed is adjusted in connection with zoom factor.

1.3. Applications of Network Domes

- IP surveillance (buildings, stores, manufacturing facilities, parking lots, banks, government facilities, military, etc.,
- Real time Internet broadcasting
- Remote monitoring (hospitals, kindergartens, traffic, public areas, etc.,)
- Teleconference (Bi-directional audio conference)
- Remote Learning
- Weather and environmental observation

2. Product Description

2.1. Package Contents

Open the package and check if you have the followings:

INDOOR

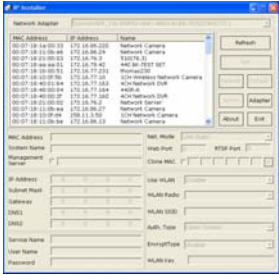
1. Camera main body
2. CD(Manual, S/W)
3. AC Adapter (Optional)
4. Ceiling Mount Bracket
5. Wrench
6. Screw (Ø 3x6 screw 2EA,
Ø4x16 screw 5EA)
7. Safety Wire
8. Ceiling Cover
9. Cable ties
10. Terminal Block
(1 EA of 2Pin, 3Pin , 5Pin ,6Pin)

OUTDOOR

1. All items of indoor speed dome network camera expect Ceiling Cover
2. Manual for outdoor housing
3. Outdoor Housing
4. Wall Mount Bracket
5. Screw (M4x15 screw 4EA)
6. Safety Cable

**OUTDOOR = INDOOR +
Outdoor Housing**

2.2. Preview

Network Domes	IP-Installer	i-NVR & Virtual System Controller
 OUTDOOR INDOOR		
MPEG-4 Speed Dome Network Camera	PC software to allocate IP parameters to Network Domes	PC software to view and record the A/V streaming data transmitted from Network Domes

2.3. PC Requirements

AV streaming data received from Network Domes can be decoded or stored in a PC running i-NVR program which is a viewing & recording program for a PC. Minimum requirement of the PC is described below:

	Minimum	Recommended
CPU	Pentium III 700	Pentium IV 1.8G above
Main Memory	128 MB	512MB above
Operating system*	Windows 2000 or later	Windows 2000 or later
Web browser	Internet Explorer 5.0	Internet Explorer 6.0 above
Resolution	1,024 X 768	1280 X 1024
Network	10 Base-T Ethernet	100 Base-T Ethernet

* Operating Systems supported : Windows 2000 Professional

Windows XP Professional / Windows XP Home Edition

2.4. Physical description

2.4.1 Bottom View and Connections

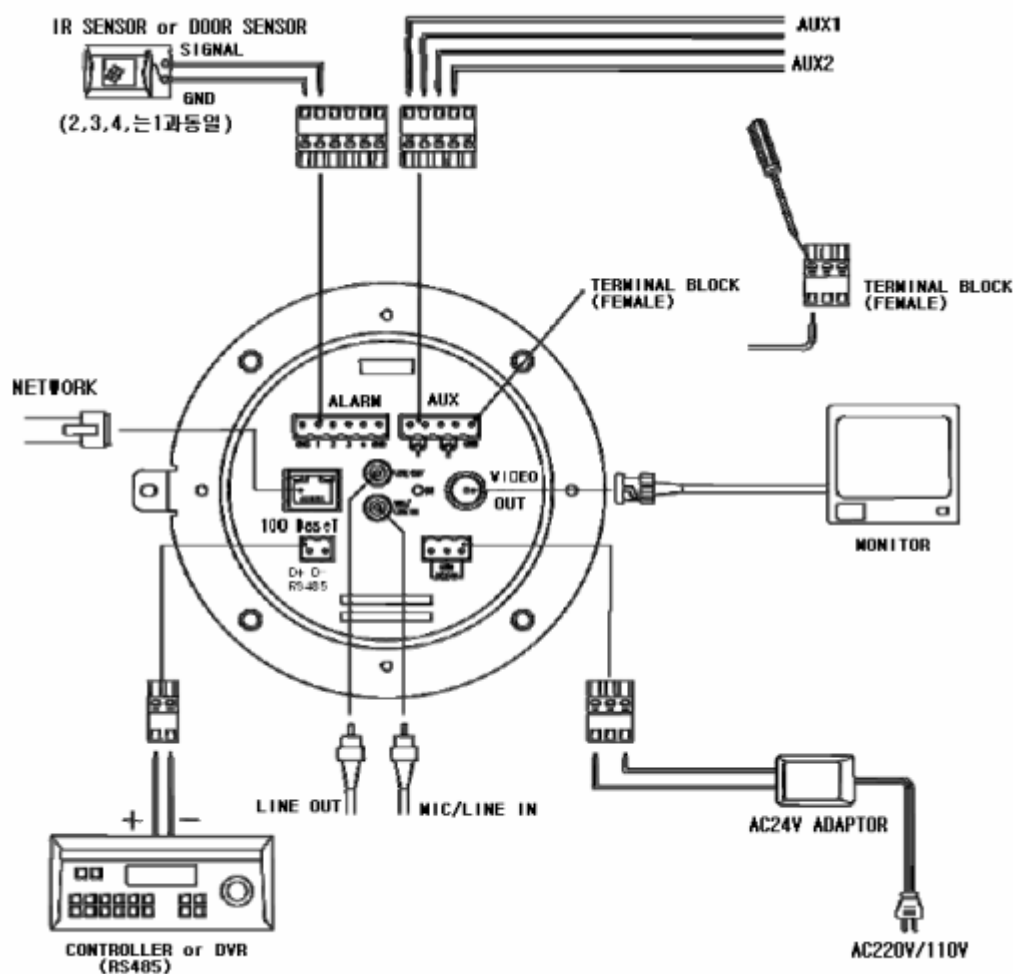


Fig. 2-1 Bottom View of Network Domes

- Input/Output Connectors at Bottom panel of Network Domes

Connector Name	Description
ALARM	4 Alarm inputs(Signal pin number : 1, 2, 3, 4), 2 GND(ground) signals - Connect external alarm sensors such as the infrared, heat, magnetic sensor to network camera. - Sensor type(Normal Open or Normal Close) can be selected using Virtual System Controller (Keyboard Emulator) in i-NVR (for detailed information, please refer to the i-NVR user's guide in CD)
AUX	2 Relay outputs and 1 ground (GND) signal - Connect external alarm generators such as sirens, flashing light, etc., to network

	camera. Please refer to the section 6.1 for more detailed description.
NETWORK	. RJ45 connector, 100Base-T. . Connects Network Domes to IP network
RS485	. Connect external device such as System Controller (Keyboard) or DVR to Network Domes network camera
VIDEO OUT	. Composite video output from the camera.,
LINE OUT	. Connect a speaker with amplifier. . Audio/voice from client at remote site can be output through the line out terminal in bi-directional audio mode of iNVR or NVR-Pro.
MIC/LINE IN	. Connect external Microphone or audio to network camera. Input audio/voice is compressed in network camera for synchronized transmission with video to client PC through IP network
AC24V	. Connect 24 Volt AC adaptor to this terminal for supplying power to the network camera. . AC adapter which is compliant to the specification for Network Domes should be used. Misuse of power supply can cause damage to Network Domes. TBTCCTV assumes no responsibility for misuse of the power supply.

2.4.2 Dimension and basic parts of Network Domes

A. Dimension

A-1. Indoor Type

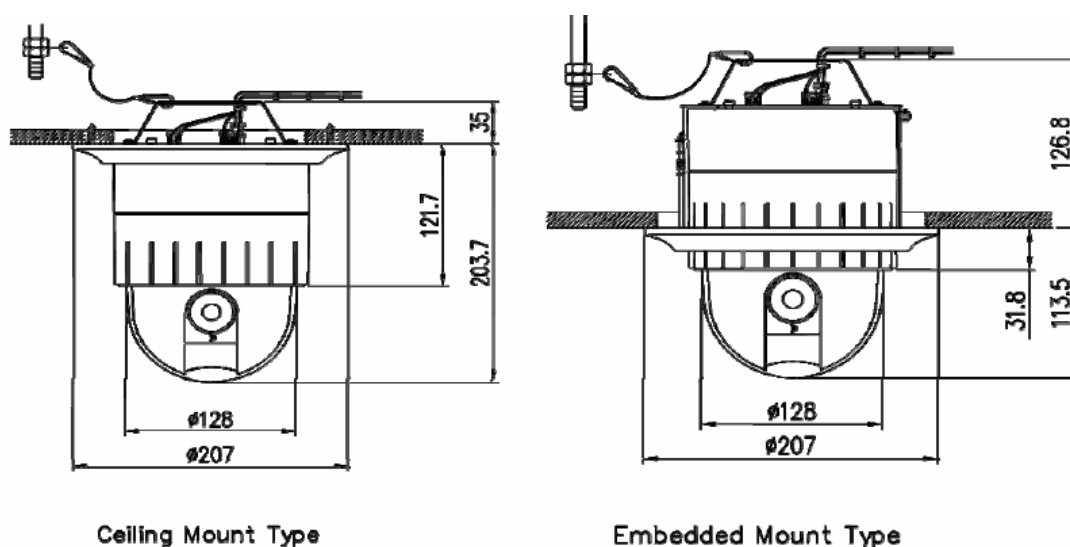


Fig 2.2 Dimension of Indoor type (unit : mm)

A-2. Outdoor Type (Indoor camera + Outdoor Housing)

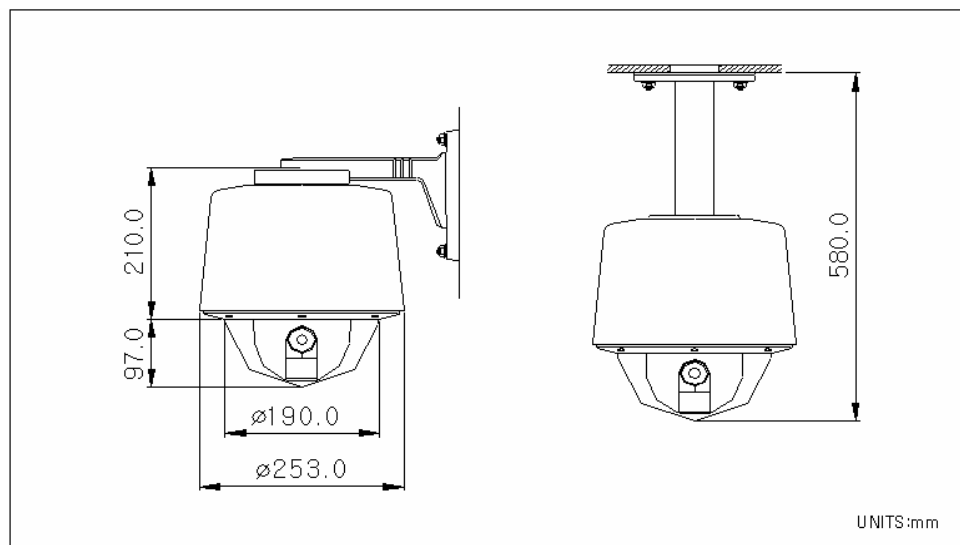


Fig.2-3 Dimension of Outdoor Type

B. Exterior and Interior of View

B-1.Common part of Network Domes

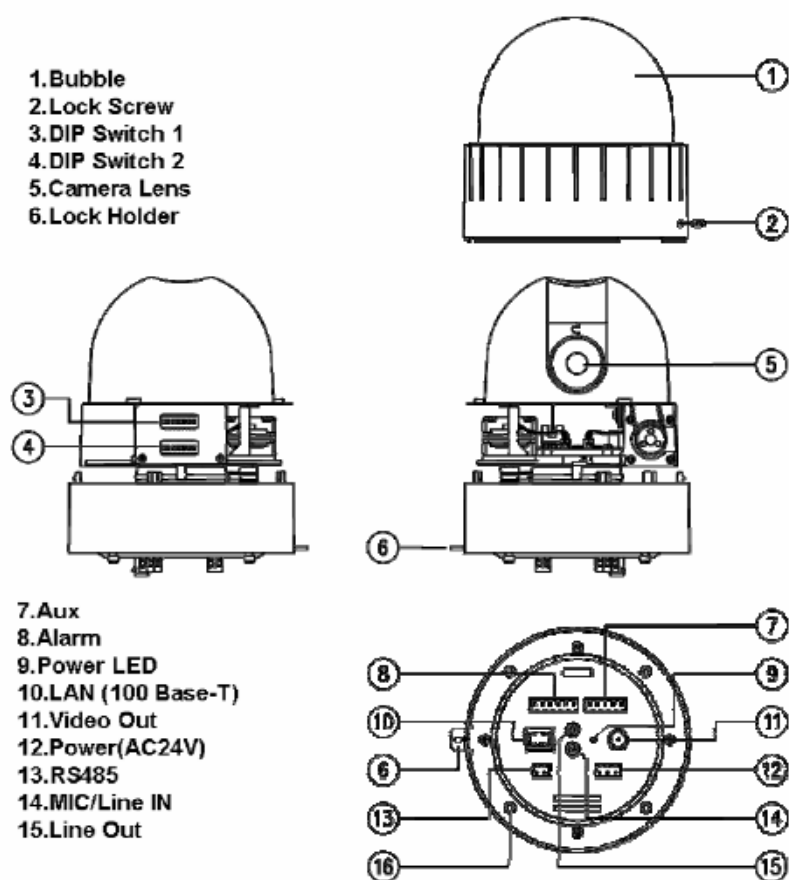


Fig.2-5 Common part of Network Domes

B-2.Outdoor Housing parts

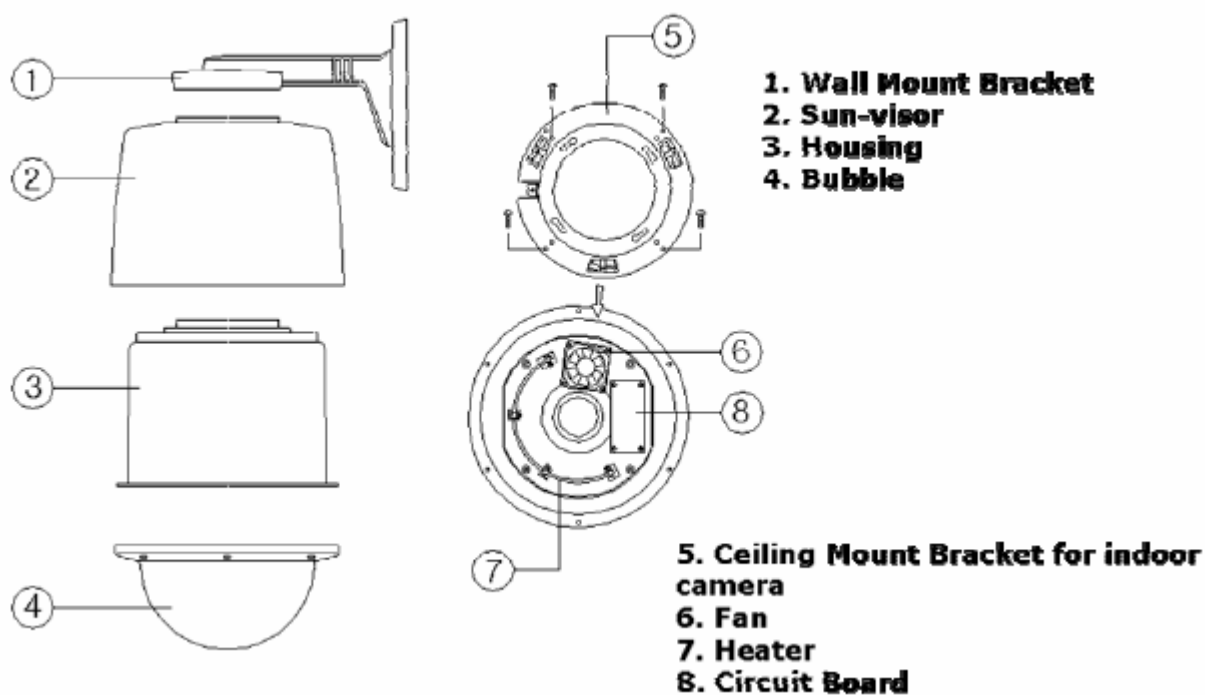


Fig.2-6. Outdoor housing

2.5. Specification of the analogue camera

2.5.1. Zoom cameras

Network Domes is offered with 3 types of zoom camera modules as described in the following table.

Camera module	Lens	Misc.
22X Zoom	Zoom Camera With DSS	PAL or NTSC
18X Zoom	Sony Zoom Camera	PAL or NTSC
26X Zoom	Sony Zoom Camera	PAL or /NTSC
30x Zoom	Samsung Zoom Camera	PAL or /NTSC
36X Zoom	Sony Zoom Camera	PAL or /NTSC

2.5.2 Detailed specifications (OUTDOOR TYPE)

MODEL		IP-1821	IP-2621	IP-2221D	IP-3021	IP-3621	
PAN/TILT	Pan Rotation Angle		360° Endless				
	Pan Speed	Manual	100° ~ 200°/sec (64step)				
		Preset	Max 300° /sec				
	Tilt Rotation Angle		0° ~ 90°				
	Tilt Speed	Manual	100° ~ 200°/sec (64step)				
	Preset	Max 200° /sec					
System Accuracy		0.024°					
FUNCTIONS	Presets		165 positions with a 16-character label available for each position with different speed steps				
	Group Scanning		Max. 8 Programmable group tours (each one consisting of up to 60 preset steps with different steps)				
	Auto scan		Programmable Auto scan				
	Pattern		8 Programmable Patterns (total 480 seconds)				
	Privacy Zone		24 privacy zones	x		24 privacy zones	
	Sector		8 selectable Sectors with 16 characters				
	Password Protection		Yes				
	Alarm Input		4 alarms OFF/NC/NO (with various programmable states)				
	Alarm Actions		Activate preset, Group scanning or output per alarm input				
	Aux Output		2 Replay Output				
	Auto Flip		ON / OFF				
	OSD Menu		Multiple Languages on screen				
	Communication Protocol		RS-485 Multiple protocols including Pelco D/P				
	POWER	Power Consumption		25W Max / 45W with fan& heater			
Power Supply		18~32VAC 60/50Hz 1.1A / 2.0A with fan& heater					
Power Requirement		40VA					
OTHERS	Construction		Anti-vandal bubble (Poly Carbonate), Body (Aluminum)				
	Dimensions		253φ (D) *307mm(H), 190φ(Bubble) (10" (D) *12.1"(H), 7.5"(Bubble))				
	Weight		5.3 kg (11.7 lbs)				
	Motor Type		Stepper Motor				
	Micro Steps		1/8 Micro Step				
	Temperature for heater working		On: below 10℃(50°F) , Off: over 15℃(59°F)				
	Temperature for fan working		On : over 45℃(113°F) , Off: below 35℃(95°F)				
	Operating Temperature		-40℃ ~ 65℃ (-22°F ~149°F)				
	Certifications		IP66, CE, FCC				
MODULE	Image Sensor		1/4" Sony Exview HAD CCD		1/4"Sony super HAD CCD	1/4" Sony Exview HAD CCD	
	Horizontal resolution		More Than 480TV Lines				
	Lens	Optical	18x Zoom (F=1.4~3.0, f=4.1~73.8mm)	26x Zoom (F1.6~3.8, f=3.5~91.0mm)	22x Zoom (F1.6, f=3.9~85.8mm)	30x Zoom (F= 1.6 ~ 3.4 , f=3.3 to 99mm)	36x Zoom (F=1.6 ~ 4.5 , f=3.4 to 122.4mm)
		Digital	12x (216x with optical)	12x (312x with optical)	10x (220x with optical)	10x (300x with optical)	12x (432x with optical)
	Day & Night (ICR)		Auto/ Day/ Night		Optional Basic D/N	Auto/ Day/ Night	
	Min.Shooting Distance		0.35m(Wide)/0.8m(Tele) 0.32m(Wide)/1.5m(Tele)		0.01m(Wide)/1m(Tele)	0.32m(Wide)/1m(Tele) 0.32m(Wide)/1.5m(Tele)	
	Digital Slow Shutter		ON/ OFF		Optional	ON/ OFF	
	Min. illumination	Normal mode	0.7Lux (50IRE)	0.7Lux (50 IRE)	1Lux (30IRE)	0.6Lux (50IRE)	1.4Lux (50IRE)
		Night mode	0.01Lux (ICR On)	0.05Lux (ICR On)		0.1Lux (ICR On)	0.01Lux (ICR On)
	Luminance S/N Ratio		More than 50dB		More than 48dB	More than 50dB	
	BLC		ON / OFF				
	Flickerless	NTSC	ON / OFF (1/100)				
		PAL	ON / OFF (1/120)				
	WHITE BALANCE		AWB/ATW/INDOOR/ OUTDOOR				

2.6. Quick Installation Guide

Brief information for rapid installation is provided in this section. For more detailed information you are recommended to refer to pertinent documentations provided with the product.

1. Apply power to Network Domes and Connect Network Domes to LAN like the following picture.

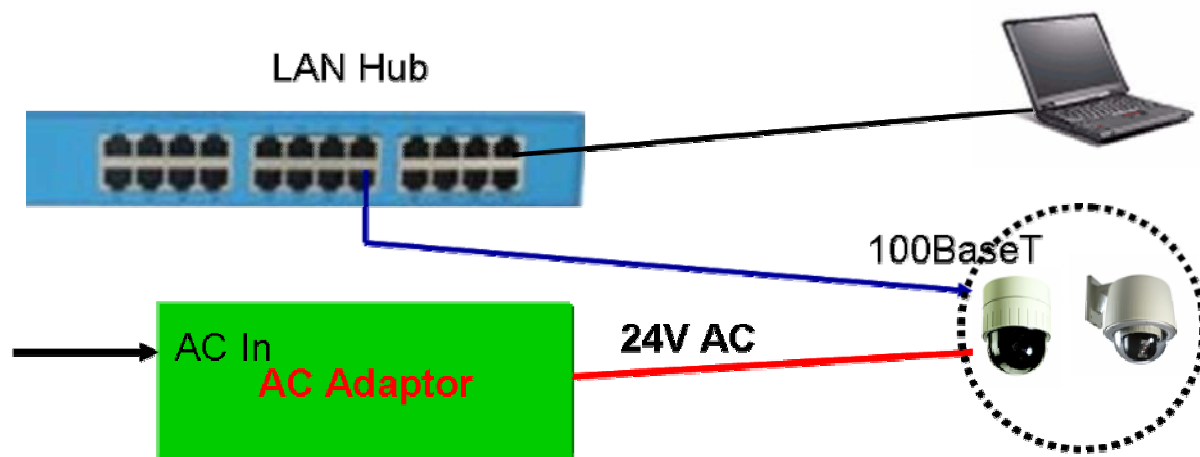


Fig. 2-5 Connecting Network camera and PC

2. Install "IP installer" and "i-NVR" on your PC.

Detailed information for installing these programs can be found in [\[IP-Installer User's Guide\]](#) and [\[i-NVR User's Guide\]](#), respectively.

3. Assign IP address to Network Domes using IP installer.

Identify the type of the network environment and set up IP address. Detailed process of setting up IP address can be found in [\[IP-Installer User's Guide\]](#). If network type is xDSL or Cable modem you need supplementary information provided by your ISP.

4. Connect to Network Domes in Administrator Mode for initial parameter set-up.

All parameters are set to factory default state when Network Domes is delivered. You are asked to configure the system for your environment in administration mode. Detailed information of using administration mode can be found in [\[5. Configuring Network Domes in Administrative Mode\]](#). Among the parameters, the parameters in the following table should be set-up with proper values. Detailed information for the parameters in Administrator Mode is found in [\[5. Configuring Network Domes in Administrative Mode\]](#)

[Note]: Set-up values are preserved even the power is turned off.

Page	Parameter	Setup value	Factory default value
Basic Setup	Video Size	Set the resolution of the video transmitted from Network Domes.	Make sure that you press Check button to find out the number of maximum possible simultaneous users then set the number of users smaller than or equal to the number.
	Max Upload Rate	Set this value smaller than the upload speed of your network.	
	Frame Rate	The number of frames to be transmitted per second.	
	Video Rate	Bandwidth assigned for video transmitted from Network Domes.	
User Admin & Time Setup	Administrator name & password	For safety, you are recommended to change these values from factory default. For new connection, you need to input changed values for corresponding fields. Do not disclose these values to others and memorize these values.	Default value User name : root Password : dw2001
User Admin & Time Setup	Current Time	Input correct time in this field.	Default value : 2001/1/1

5. Connect the input and output signals to Network Domes.

Connectors	Function	Signal description	Number
Mic/LINE-In	Audio/Voice in	Connect microphone or output from audio devices.	1
Line Out	Audio out for speaker	Audio from remote site is available from this connector in bi-directional audio mode. Connect speaker with amplifier.	1
Alarm /Aux	Connecting Alarm Sensor	IR sensor, Motion Sensor, Smoke Detector...	1
	Connecting Alarm annunciating device	Siren, Flashing Light, ...	1
Network	Network connection	Connect Network Domes to the network, LAN, ADSL or Cable modem.	1
AC24V	Supply AC power	Apply AC24V power to network camera	1

6. Remote video connection to Network Domes

Run i-NVR on your PC. Before connecting to Network Domes it is needed to configure the connection information on the i-NVR. More detailed information of using “i-NVR” can be found in [[i-NVR User's Guide](#)].

3. Connecting Network Domes to IP Network

Network Domes supports LAN, xDSL, and Cable modem. It also supports shared IP environment where single IP address is shared by at least 2 IP devices. Refer to [\[IP-Installer User's Guide\]](#) for details of setting the IP address for Network Domes.

3.1. Connecting to LAN

In case of connecting the Network Domes to LAN, it is generally connected as in Fig. 3-1.

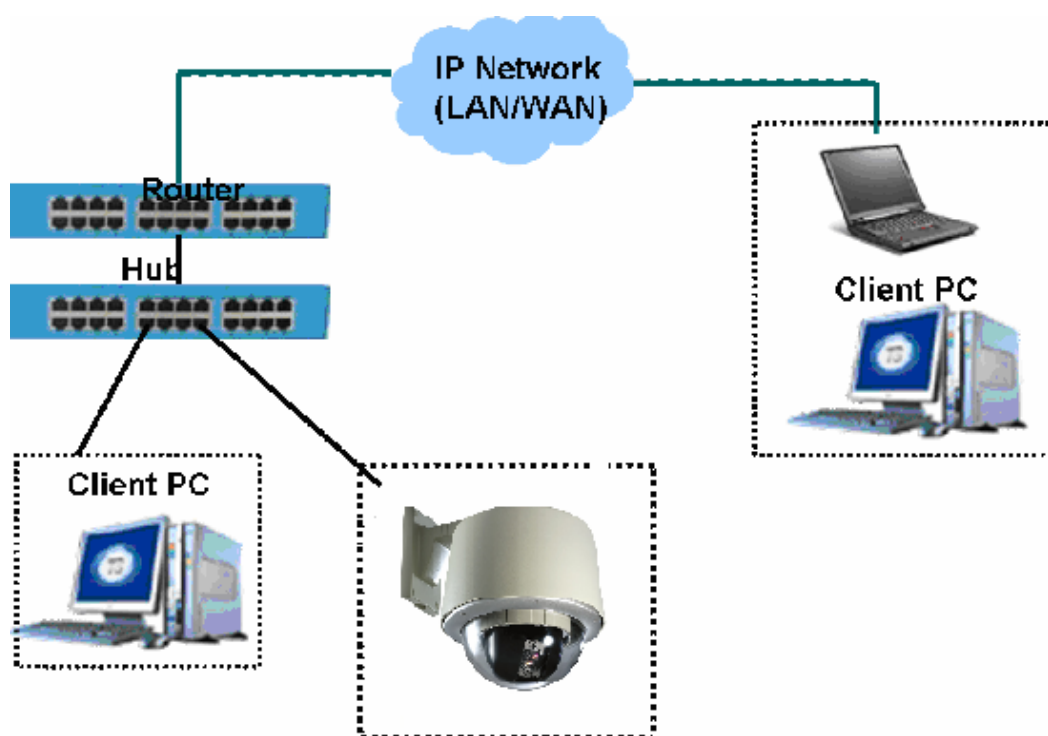


Fig. 3-1 Connecting Network Domes to LAN

1. Follow through steps 1 to 4 in Section 2.5 to assign IP address to Network Domes.
2. Install Network Domes and connect it to desired LAN.
3. Check if you can receive video data when connecting to Network Domes using the viewer program.
4. When one or more IP video products are connected through a IP sharing device (i.e. router) to a larger network (i.e. the internet), in order to access each unit from outside the local area network, each device must have a unique RTSP (Real Time Stream Protocol) and HTTP port number. You must also conFig. your IP sharing device for "port forwarding". This is to enable the IP sharing device to forward packet data with unique port number (RTSP and HTTP) to unique internal IP address (local IP address). If you only plan to access multiple

units from within a local area network, you do not need to change the RTSP and HTTP port numbers, unless other IP sharing devices sit in-between the client and the IP video products. For more detailed information regarding the use of IP sharing device refer to the document [\[Use of Private IP network using IP-sharing-device\]](#).

3.2. Connecting to xDSL/Cable Modem

1. Follow through steps 1 to 4 in Section 2.5 to assign IP address and other network parameters to Network Domes.
2. Install Network Domes and connect it to xDSL or Cable modem as in Fig. 3-2.

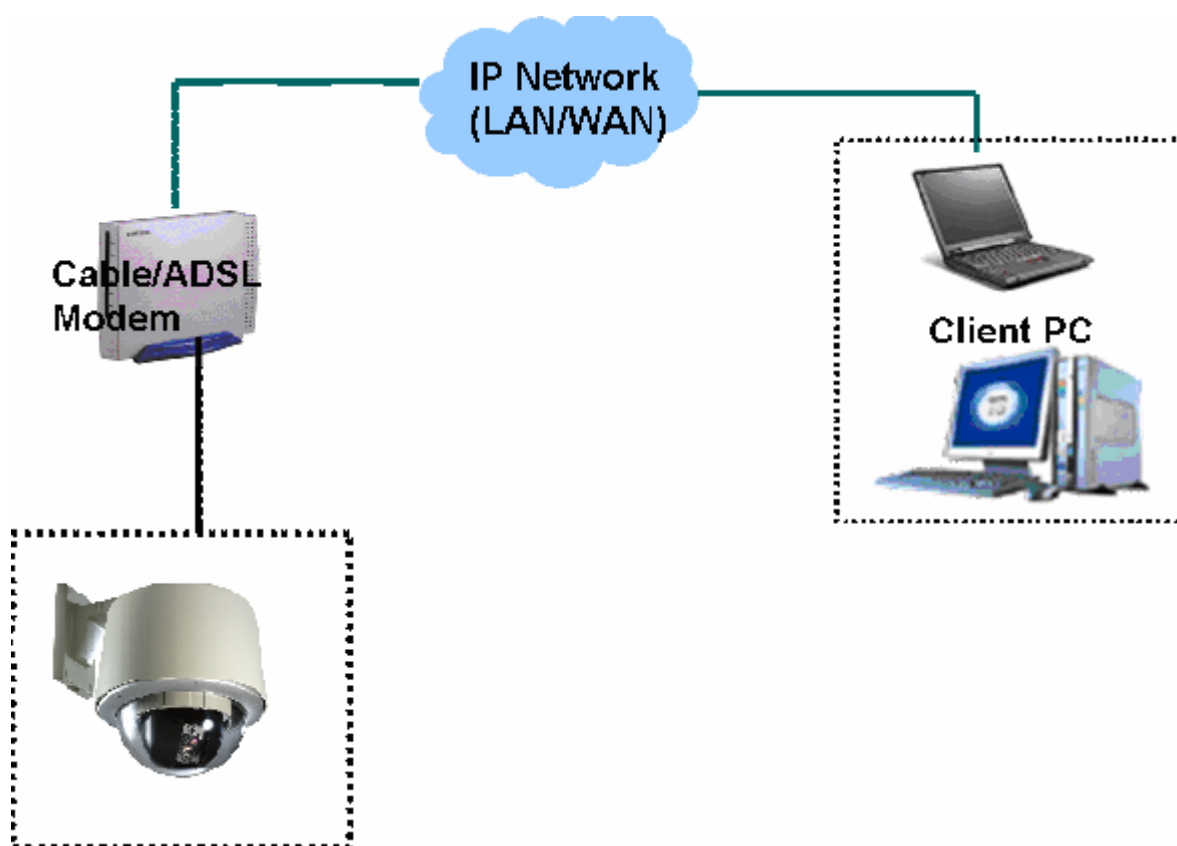


Fig. 3-2 Connecting Network Domes to ADSL/Cable Modem



When fixed IP address is assigned to the xDSL or Cable modem, follow the same way as assigning IP address for the case of LAN using IP-installer. To enable the notification of the changed IP address to the user over e-mail when the IP address is changed in floating IP environment, you have to assign the e-mail address when user name and password are input using IP-installer. **(Management server provides a convenient way of connecting to your network camera under dynamic IP environment. Please**

refer to the Application note regarding "Management Server" in the CD.)



When connecting Network Domes to xDSL or Cable modem, usually regular LAN cable is required. But since some modems have crossover connections, please contact your service provider for detailed information.

4. IP-Installer

Network Domes needs IP network parameters for connection to the network(Internet/Intranet). IP-Installer is a PC program for the initial network configuration to IP video products such as Network Camera or A/V Server. IP-Installer is provided in a CD supplied with Network Domes or it can be downloaded from "www.tbtcctv.com".

Detailed information of Installing and running IP-installer can be found in [IP-installer user's guide]

4.1. Main window of IP-Installer

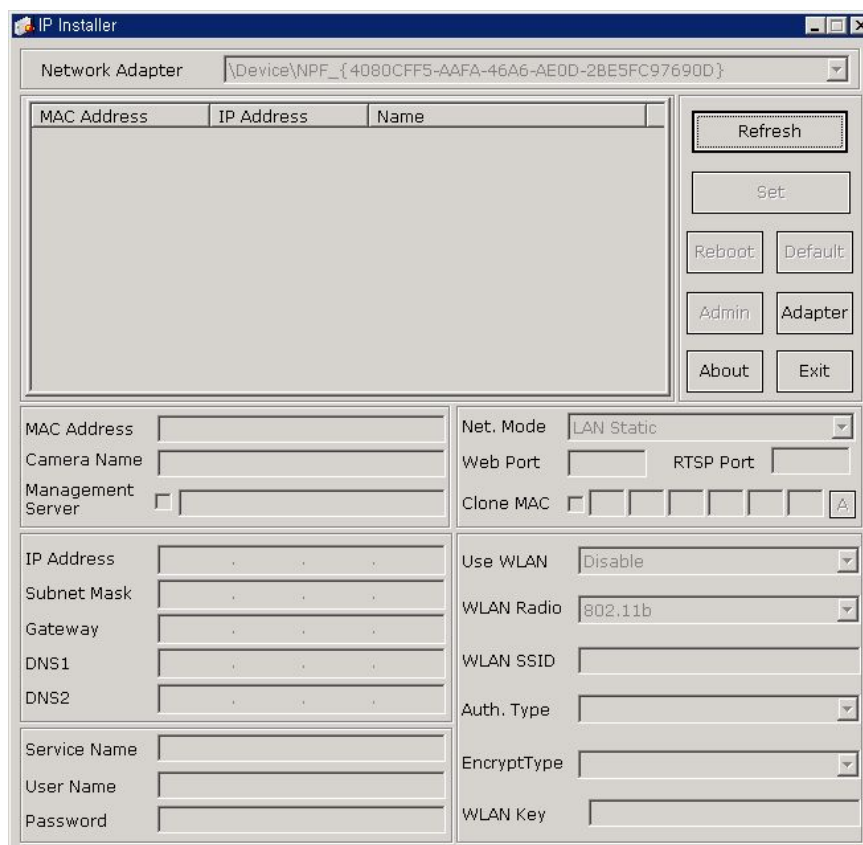


Fig. 4-1 IP Installer

All the basic network parameters needed for the initial connection to IP video products can be assigned by IP-Installer. Once the basic parameters are assigned and the initial connection is successfully made, you can connect to the administration page for more sophisticated control of the network parameters and other operational parameters. Refer to Chapter 5 for more details of the administration page.

5. Configuring Network Domes in Administrative Mode

5.1. Log On

There are 2 ways of connecting to Network Domes administrative mode. One is through Internet Explorer and the other is through “i-NVR” program.

1. Using Internet Explorer

Type in the connection address of the network camera in the address window of the Internet Explorer as followings:

[http://\[Network Domes IP address\]/admin.htm](http://[Network Domes IP address]/admin.htm)

Example: <http://172.16.64.133/admin.htm>

If you changed the HTTP port from default value you can login by typing in:

[http://\[Network Domes IP address\]:\[HTTP port\]/admin.htm](http://[Network Domes IP address]:[HTTP port]/admin.htm)

Example: <http://172.16.64.133:8080/admin.htm>

2. Log on from “i-NVR”

Select video channel in the viewing window of “i-NVR”. Selected video channel will be highlighted. Click



button on the right side of the display screen.

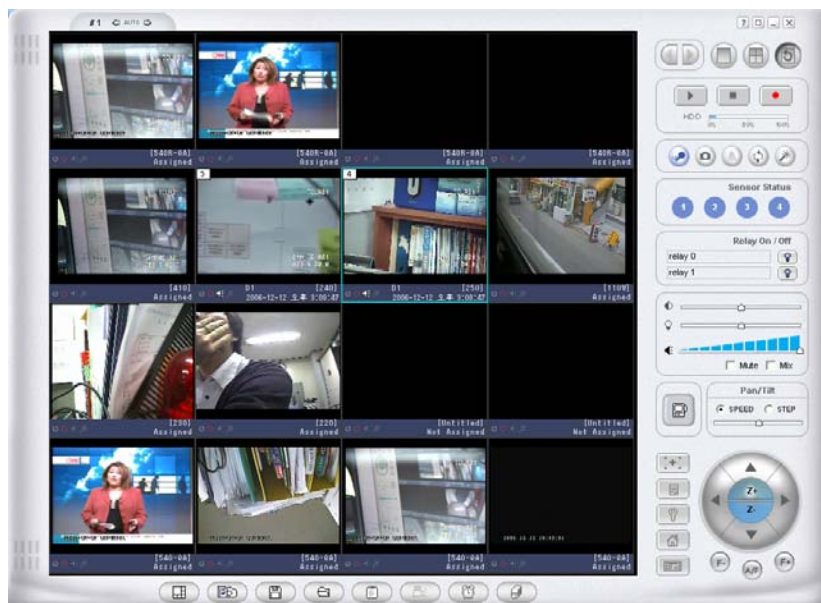


Fig. 5-1 Main Screen of i-NVR

3. Input User Name and Password in the display screen shown in Fig. 5-2.



Fig. 5-2 Log On Screen

Factory default User Name and Password are set as 'root' and 'dw2001', respectively. Click on "OK" button to enter into the Basic Setup page of Administrative Mode. If you have changed the username and password of the Administrator, you must log on with the changed username and password.

5.2. Basic Setup

Setup the basic parameters of the Network Domes.

The screenshot shows the 'Administration Tools' web interface. At the top right, there is a language dropdown set to 'English'. The sidebar on the left contains the following links: Basic Setup, Network Configuration, User Admin & Time Setup, Sensor & Capture Setup, Alarm Device Setup, Motion Region Setup, PTZ Setup, Encryption Setup, Upgrade & Reset, and Status Report. The main content area is titled 'BASIC SETUP' and contains the following sections:

- System Name:** A text field containing 'Network Camera'.
- Audio Input Selection:** Two radio buttons: 'Line In' (selected) and 'Mic'.
- Video Quality & Bandwidth Control:**
 - Input Video Source:** A dropdown menu set to 'NTSC'.
 - Video Size:** A dropdown menu set to '704 x 480'.
 - Video Rotation:** An unchecked checkbox.
- Channel Configuration Table:**

	Channel
Max. upload rate	7168 Kbps
Frame rate	30 Frames
* Lower frame rate ensures better picture quality at the same encoding rate.	
* There is no 1:1 relationship between frame rate and bandwidth.	
Video rate	1000 Kbps
Audio rate	32K-Audio
- User Management:**
 - Possible Max. Users:** A text field with '6' and a 'Check' button.
 - Remained:** A text field with '976' and the unit 'Kbps'.
 - Limited Users:** A text field with '6' and the unit '(Person)'.
- SAVE:** A button with a save icon.

Fig. 5-3 Basic Setup

Field/Button	Sub Field /Button	Description
Language		Select a language of your choice
System Name		Logical name of the Network Domes. It is same as the one set-up by IP-installer. You can reassign the system name.
Audio Input Selection		Select the type of input audio. - Select Line In for using Line-out from audio devices. - Select Mic for using microphone.

Video Quality & Bandwidth Control	Input Video Source	This field is set by the factory.
	Video Size	Select a video size for transmission ● NTSC (30frames/sec Max.) : 176x144 / 352x240 / 704x480. ● PAL/SECAM (25frames/sec Max.) : 176x144 / 352x288 / 704x576
	Max upload rate	Assign maximum bandwidth of the uplink for the network connected to Network Domes.
	Frame rate	Assign number of video frames to be transmitted for each second. You can improve picture quality by lowering frame rate for the same bandwidth.
	Video rate	Assign bandwidth for transmitting video data.
	Audio rate	Assign bandwidth for transmitting audio data. Audio data is not transmitted if you select "NA"
	Check	After you finish set up of video and audio for all the channels, click on this box to obtain the possible maximum number of users (Possible Max Users) and remaining network bandwidth (Remained) remaining when possible maximum users are connected.
	Possible Max Users	It shows the number of maximum simultaneous connections for the network connection set-up.
	Remained	It shows the network bandwidth remaining when Possible Max Users are connected.
	Limited users	Useful network bandwidth varies according to the condition of the network. This parameter is used to limit the number of the simultaneous connections below the number shown in Possible Max Users .
Save		Save the set-up parameters when the set-up parameters are done.

5.3. Network Configuration

Setup the network parameters appropriately in accordance with your network environment. Many of the parameters in this page are same as those set up by "IP-Installer".

Basic Setup Network Configuration User Admin & Time Setup Sensor & Capture Setup Alarm Device Setup Motion Region Setup PTZ Setup Encryption Setup Upgrade & Reset Status Report	IP Assign Type (*: System will be reset)			
	☒ Static IP Setup			
	IP Address	172.16.77.241	Subnet Mask	255.255.0.0
	Gateway	172.16.0.1		
	DNS1	168.126.63.1	DNS2	0.0.0.0
	☐ PPPoE Setup			
	Username		Password	
	☐ DHCP Setup			
	Host Name		Domain Name	
	☐ Use Cloned MAC Address 00 00 00 00 00 00			
	Port Change (*: System will be reset)			
	HTTP	80 (default: TCP 80)	RTSP	554 (default: TCP 554)
	IP Filtering			
	☐ Restrict Administrator Access			
	Base IP Address		Mask	
0.0.0.0		0.0.0.0		
E-Mail Setup ☐ Notify for IP Change				
Recv E-mail Address				
Return E-mail Address				
☒ Using Built-in SMTP Server				
☐ Using External SMTP Server				
SMTP Server				
Username		Password		
FTP Server Setup				
IP Address				
Username		Password		
Directory		Port		
		21 (default: TCP 21)		
Management Server				
☐ Logon to server				
SAVE				

Fig. 5-4 Network Configuration

Field/Button	Sub Field /Button	Description
IP Assign Type		The network types supported by the Network Domes are LAN(fixed IP), PPPoE, and DHCP(automatic IP allocation)
	Static IP Setup	When the network environment is fixed IP, select 'LAN' in the network type, and put the IP address, Subnet Mask, Gateway, DNS1 and DNS2. Ask your network administrator or ISP for the information. DNS2 is used when DNS1 does not work.
	PPPoE Setup	When the network environment is PPPoE and IP address is assigned automatically, select 'PPPoE' in the network type. Next, fill in the 'User Name' and 'Password' fields with the values assigned by the ISP.
	DHCP Setup	When the network environment is "automatic IP allocation by DHCP", select 'DHCP' in the network type. For cable modem connection, select this mode. Refer to [IP-installer user's guide] for "Host name and domain for Cable Modem"
	Clone MAC	Refer to [IP-installer user's guide] for "Clone MAC"
Port Change		Each port should have a number below 65,535.
	RTSP	The RTSP port is used for transmitting real time audio/video data from the network camera. Default is 554.
	HTTP	HTTP port is used for the connection to the admin page. Default is 80.
IP Filtering		You can restrict the access to the administrator page from IP addresses beyond certain IP address range.
	Restrict Administrator Access	Check at this box to restrict administrative log on.
	Base IP Address	Input IP address of the PC which is intended to be used for log on to administrative mode.
	Mask	This is same as subnet mask. It is used to allow administrative log on only to the PCs located in the same subnet as the base IP address. If you want to allow only one PC to access in administrative mode, set this value to 255.255.255.0
E-Mail Setup		

	Notify for IP Change	If you check this, the IP address will be sent via E-mail whenever the IP address changes. It is sent to the E-mail address set by " Recv E-Mail Address ".
	Recv E-Mail Address	Enter E-mail address to receive information sent from your network camera. This is same as E-mail field in IP-installer.
	Return E-Mail Address	Fill in this field with correct e-mail address to identify the mail sent from the network camera
	Using Built-in SMTP Server	If you are using web mail services having no SMTP server, check the radio button at the left of " Using Built-in SMTP Server " and enter valid e-mail address to avoid spam filtering on the receiving e-mail server.
	Using External SMTP Server	If you are using external mail server, fill in the fields with proper parameters.
FTP Server Setup		Setup IP address, Username, Password and Directory of FTP server to send data in case of alarm. Default FTP port number is 21.
Management Server		You can register the network camera to the Management Server (DDNS Server) for name service to your network camera.
	Log on to server	Check this box to enable log on to the management server. By log on to the management server your network camera can use domain name instead of numeric IP address. This feature is particularly useful when your network camera is using dynamic IP address. Input valid management server (DDNS Server) name for the service. You must have an account on the management server (DDNS Server) and register your IP video devices under your account to use this feature. Domain name of your network camera can be assigned when you register your network camera to the management server under your account. One of the servers available is mgmt.net-video.net. For opening an account, visit www.net-video.net.

5.4. Wireless Configuration (This is not applicable to Network Domes network camera)

For the case of a network camera having built in wireless LAN it is needed to set up wireless LAN configuration parameters. Click “Wireless Configuration”.

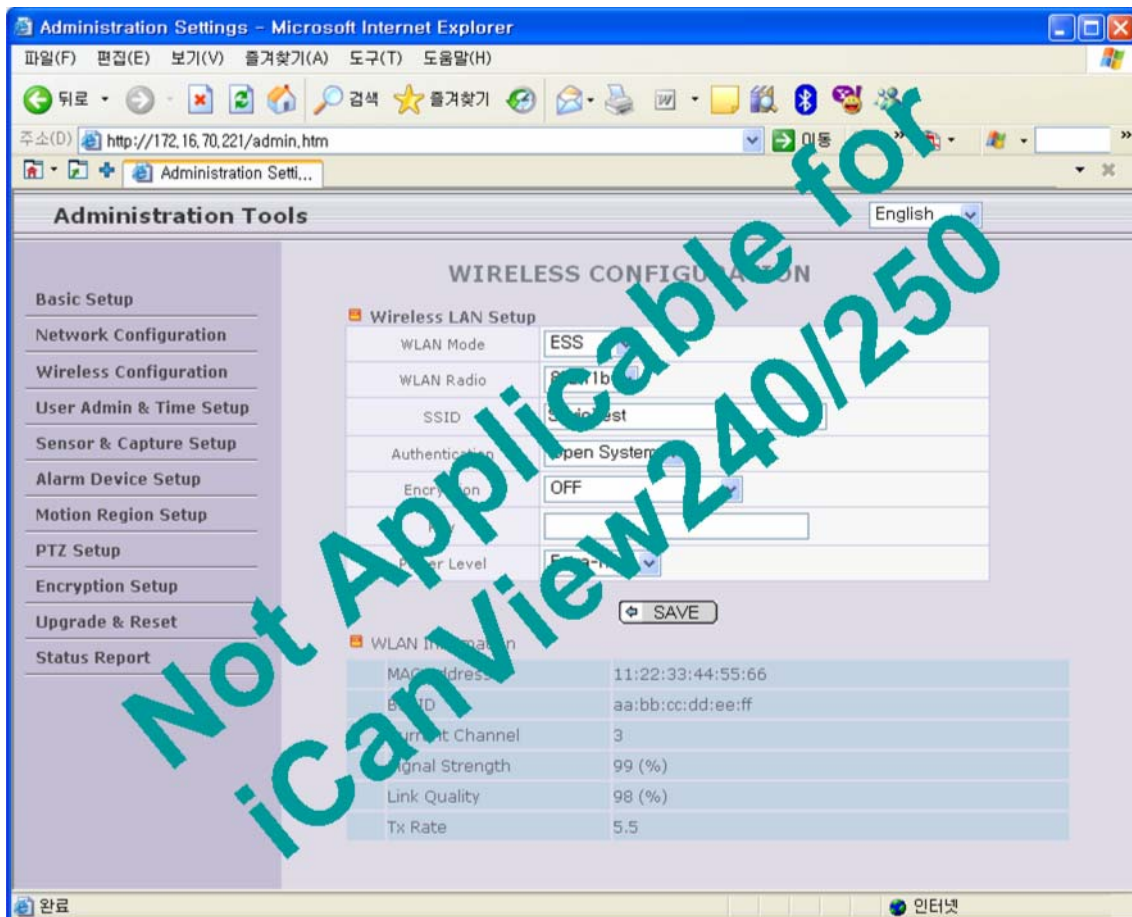


Fig. 5-5 Wireless Configuration

Field/Button	Sub Field /Button	Description
Wireless LAN Setup	WLAN Mode	Select “ESS” to use wireless interface. If “Disable” is selected, Ethernet interface is used instead of wireless LAN interface.
	WLAN Radio	Select the mode of Wireless Radio.
	SSID	Enter the ID of the wireless LAN access point to be connected when wireless LAN interface is selected.
	Authentication	Select the type of authentication.
	Encryption	Select the mode of encryption. If encryption is not needed, select “OFF”
	Key	Set the value of encryption key or pre-shared key.

	<i>Power level</i>	<i>Set the maximum transmission power level or wireless LAN.</i>
<i>WLAN Information</i>	<i>MAC Address</i>	<i>Indicates MAC address of the wireless LAN.</i>
	<i>BSSID</i>	<i>Indicates the ID of the connected access point. In general the MAC address of the access point is shown.</i>
	<i>Current Channel</i>	<i>Indicates the channel number of present connection.</i>
	<i>Signal Strength</i>	<i>Indicates the strength of the received signal.</i>
	<i>Link Quality</i>	<i>Indicates the quality of Link level.</i>
	<i>Tx Rate</i>	<i>Indicates the speed of the latest transmission</i>

5.5. User Admin & Time Setup

You can change the ID and password of users and also assign different attributes for each user.

Fig. 5-7 User Administrator & Time Setup

Field/Button	Sub Field /Button	Description
User Administration	Administrator Username	Admin ID. Default ID is "root"
	Administrator password :	Admin password. The default password is "dw2001".

	Administrator Confirm Password	Enter the password once more to confirm the password.
	Add User Username	Enter the user ID you want to add. Up to 100 users are supported by Network Domes.
	Add User Password	Enter the user password.
	Add User Attribute	You can set different system resource access capabilities for each of the users. ● Attributes are Audio, Bi-directional Audio and Pan/Tilt control. ● For example, if you want a specified user to hear the audio from the Network Domes, check Audio in the check box.
	User List	You can list "user ids" and "their attributes" here. ● format : user id[A, BA, P] : ■ A – Audio, ■ B – Bi-directional audio, ■ P – PTZ, attribute. You can delete specific user by clicking the DELETE button.
Authentication for Viewing	YES SAVE	If you want to restrict viewing access to the Network Domes, check at the box left to Yes and click on Save. Users need to input ID and password to connect to Network Domes in viewing mode in a pop up window as shown below.. Fig. 5-8. User Authentication in Network Domes
	If No, default attribute	If you uncheck for the Authentication for Viewing, all users can access the Network Domes with the same attribute set here. Checked attributes are enabled. Click " Save " to save the attribute.
Time Setup	Current Time	It shows you the current time of Network Domes.

	Synchronize with an Internet Time Server	Synchronize the time with the internet time server at the right. When the time server is out of the reach from Network Domes, you can assign time server by filling in Specific Time Server field.
	Synchronize With this Computer Time	Synchronize the time with the time of the PC.
	Set Manually	Set the time manually. Fill in the fields with desired formats.
SAVE		Save the set up parameters
 If you lost Administrator's ID and password, the only means of recovery is to reset the settings to factory default, but then you lose your previous settings.		

5.6. Sensor & Capture Setup

This is the setup page for sensors and video capture conditions. Captured video can be sent to user by FTP or E-mail upon configuration.

SENSOR & CAPTURE SETUP

Sensor Setup
This functionality is set by PTZ controller or virtual controller of viewer

Video Capture Condition

Sensor Select
☒ Sensor 1 ☐ Sensor 2 ☐ Sensor 3 ☐ Sensor 4

Motion Detection Select
☐ Motion enable

Captured Video Transmission ☐ by E-mail ☐ by FTP

Fig. 5-9 Sensor & Capture Setup

Field/Button	Sub Field /Button	Description
Sensor Setup	Sensor 1	Not applicable for Network Domes. For the sensor setup use the OSD menu available from virtual system controller. [Refer to iNVR user's guide]
	Name	Not applicable for Network Domes.
Video Capture Condition		It sets the condition of video transmission via FTP or E-mail. The Network Domes supports 2 types of conditions which are mutually independent. 1. Sensor initiated: when at least one of the sensor detects alarm condition. 2. Motion-Detection initiated : when motion is detected from video channel
	Sensor Select	Check to enable Sensor initiated capture.

	Motion Detection Select	Check to enable motion detection initiated capture.
Captured Video Transmission		Select a way of sending captured video. You can send captured video through FTP or E-mail, or both. -
	By E-Mail	Check to send captured video by e-mail. E-mail is sent to the Recv E-mail address . Refer to [Section 5.3.] Captured video data for E-mail consists of intra frames only in consideration of the limited storage space for E-mail account. FTP data contains entire video frames.
	By FTP	Check to send captured video by FTP. FTP is sent to the FTP Server . Refer to [Section 5.3.] If the FTP server is not properly assigned in “ Network Configuration ” mode, Network Domes ignores the video transmission by FTP
SAVE		Save the setup parameters.

5.7. Alarm Device Setup

Test the alarm output and describe the condition of alarm annunciation.

Sensor related alarm operation; alarm device can operate only when the sensor is active at least over 2 seconds.

Fig. 5-10 Alarm Device Setup

Field/Button	Sub Field /Button	Description
Alarm Device Test		Test alarm devices. Click on On/Off for testing Small box with white background indicates the status of the relay by On/Off.
	ON	On the alarm output (close the relay contact)
	OFF	Off the alarm output (Open the relay contact)
Sound Test		
Alarm Device Active Condition		Setup the condition of activating alarm device. Select sensor or motion detection as the condition.
	Name	Logical name of the alarm device can be input into the box at the left.
	Sensor	Check at the box at the left of to allow alarm generation upon sensor input.
	Motion	Check at the box at the left to allow alarm generation upon Motion detection
	Duration	Set the duration of Alarm annunciation. 10 sec, 30 sec, 1 min, 2 min, 5 min, 10 min, 30 min, 1 hour.
SAVE		Save the setup parameters.

5.8. Motion Region Setup

Set the motion detection regions. Up to 3 regions can be defined.

Basic Setup

Network Configuration

User Admin & Time Setup

Sensor & Capture Setup

Alarm Device Setup

Motion Region Setup

PTZ Setup

Encryption Setup

Upgrade & Reset

Status Report

Channel Selection

Channel 1

Channel Sensitivity

4

(High : 1 ~ 10 : Low)

Motion Region Setup

Region	Rectangular	Selection	Percentage	Reset
☒ Region 1	START END	SELECT	5 %	RESET
☒ Region 2	START END	SELECT	50 %	RESET
☒ Region 3	START END	SELECT	50 %	RESET

SAVE

Fig. 5-11 Motion Region Setup

Field/Button	Sub Field /Button	Description
Channel Selection		Not applicable.
Channel Sensitivity		Set the sensitivity in motion detection for each channel. 1 is the most sensitive, and 10 is the least sensitive.

Motion Region Setup		Set up to 3 the motion detection zone
	Region 1, 2, or 3	Enable each zone by checking the box at the left of each Region. . To set the region, 1. Click on START and click on a box overlaid on the video 2. Click on END and click on a box overlaid on the video. 3. The defined motion detection zone will be indicated with corresponding colors. Legend of the color : red(region 1), green(region 2), blue(region3).
	START	Enable selection of rectangular zone start.
	END	Enable selection of rectangular zone end.
	SELECT	Click on this button and click on desired rectangle to add or delete the rectangular region to the motion detection zone.
	Percentage	This value controls the sensitivity of each region. 1 is the most sensitive and 100 is the least sensitive
	RESET	Clears the start & end point to (0,0) & (0,0)
SAVE		Save the setup parameters.

5.9. PTZ Setup

Basic Setup
Network Configuration
User Admin & Time Setup
Sensor & Capture Setup
Alarm Device Setup
Motion Region Setup
PTZ Setup
Encryption Setup
Upgrade & Reset
Status Report

PTZ SETUP

Channel Selection
Channel 1

PTZ Model Selection
TBTCCTV Dome Protocol (Default)
DELETE

PTZ Device ID
1 (0 ~ 99)
SAVE

PTZ Operation Check

[PAN STEP]
[TILT STEP]
[ZOOM STEP]

LEFT
UP
RIGHT
DOWN
Z IN
AUTO FOCUS
Z OUT

PTZ Position Setup

This functionality is set by PTZ controller or virtual controller of viewer

Fig. 5-12 PTZ Setup

Field/Button	Sub Field /Button	Description
Channel Selection		Not applicable
PTZ Model Selection		Choose the PTZ model. Choose default model for proper operation.
	Delete Button	Press this button to delete the setup of PTZ
PTZ Device ID		Your PTZ device needs an ID, input ID in this field. Click on SAVE to save the ID.
PTZ Operation Check		You can check the various operation of the PTZ devices. "Left"/"Right"/"UP"/"DOWN" , "AUTO FOCUS"/"ZIN"/"ZOUT"
PTZ Position Setup		You can set up the PTZ limitation & preset positions if the PTZ device supports it.

	Panning Limitation	Set the left/right limitation and test. Select Left/Right position before setting.
	Panning Limitation RESET	Clear the panning limitation previously set. The panning range will be the same as the PTZ device allows.
	Panning Limitation SET	Set the present position as left or right panning limitation.
	Panning Limitation TEST	Test the panning limitation which was set previously.
	Preset Position :	Set the preset position and test.
	Preset Position Preset & Move	Select a preset position to move to. Movement to the preset position will be made upon clicking on "MOVE"
	Preset Position Name Set	Assign logical name for the preset position. Enter into the field and click on SET.
	Preset Position Set	Set the present position as a preset position with position number shown at the right of "Preset & Move" and name shown at the right of "Name Set".

5.10. Encryption Set up

Fig. 5-13 Encryption Setup

For additional security to the video and audio data transmitted from the network camera, you can set key codes and use them for encrypting the data from the network camera.

You can selectively activate encryption for the video and audio data. For enabling the encryption, check at the box at the left of the “Enable data encryption” then check at the proper check boxes at the left of “Video” and “Audio”. After the selection, click on SAVE button beneath the “Video” and “Audio” check boxes.

Field/Button	Sub Field /Button	Description
Enable Data Encryption		Check at this box to apply data encryption. If it is unchecked encryption is applied on neither video nor audio data regardless of the selection below.
	Video	Check to enable encryption on the video data.
	Audio	Check to enable encryption on the audio data.

	SAVE	After the selection, click on SAVE button.
Key Value		You can use up to 20 different key codes for the encryption of the data
	GENERATE	To generate the key value click on "GENERATE" button. The boxes for the Key values will be filled with new values.
	SAVE	Save Key value on the network camera: Click on SAVE button beneath GENERATE button to save the key value generated by the network camera.
	DOWNLOAD	Download Key value to your PC : The key values can be downloaded and stored as a file to your PC for reference when you make connection. When encryption is enabled, the PC client program will ask for particular key value out of the 20 available key values.
	INSTALL	Upload key value to the network camera : The key value stored on your PC can be uploaded to your network camera. This feature is useful when you manage multiple network cameras having same key value sets. Select a file having key values then click on "INSTALL" button to upload the key values. Find file saving the Key value before uploading to the network camera.

5.11. Upgrade & Reset

You can upgrade the Network Domes via IP network.

Fig. 5-14 Upgrade & Reset

For each of the upgrade of the system component, upgrade code should be downloaded from **Manufacturer's** home page before the system upgrade is performed.

(Refer to [\[6.4. How To Upgrade Your Network Domes System\]](#))

Field/Button	Sub Field /Button	Description
Automatic Upgrade		Automatic upgrade is a feature that enables network camera to upgrade to newly released system software by automatically connecting to upgrade server. Click on check button to find the availability of upgrade firmware.
Manual		Upgrade the system manually.

Upgrade	System S/W Upgrade	Upgrade the system software installed in the network camera via the network. System software needed for the upgrade can be downloaded from Manufacturer's home page. Refer to [6.4. How To Upgrade Your Network Domes System] .
	Bootloader Upgrade	Upgrade the bootloader installed in the network camera via the network. Bootloader needed for the upgrade can be downloaded from manufacturer's homepage Refer to [6.4. How to upgrade Network Domes firmware]
Add PTZ File		Add new PTZ driver software via the network. PTZ driver can be downloaded from manufacturer's homepage. Refer to [6.4. How to upgrade Network Domes firmware]
Factory Default Setting		Re-initialize the network camera to factory default state. By checking on a Radio button "Except Network Configuration", you can preserve the parameters for the network. Checking on "All", will return all the parameters to factory default state. Once Network Domes is re-initialized as factory default state, it should be set-up again using IP-Installer.
System Reset		Perform remote reset by clicking the "CONFIRM" button. All previous connections will be disconnected upon reset. Network Domes does not resume the connections and the users must re-connect to the server manually.

5.12. Status Report

It shows you system records since the system started.

STATUS REPORT

SpeedDome	v1.0.14 (06/11/23)
Management	v1.0.14 (06/11/23)
Web Server	v1.0.14 (06/11/23)
Stream Server	v1.0.14 (06/11/23)
Audio	v1.0.14 (06/11/23)
Video	v1.0.14 (06/11/23)
Demon	v1.0.14 (06/11/23)
Flash	v1.0.14 (06/11/23)
Device Driver	v1.0.14 (06/11/23)
Mgmt Client	v1.0.14 (06/11/23)
IPInstaller	v1.0.14 (06/11/23)
AccessNetwork	v1.0.14 (06/11/23)
TCP/IP stack	v1.0.14 (06/11/23)

Additional Information

MAC Address	00:07:18:1a:00:18
Public IP Address	0.0.0.0
Management Host Name	
System ID	01010107
Connected Session	0

Fig. 5-15 Status Report

You can check the problems as well as the versions and event status of the whole system and each module.

6. Tips for Using Network Domes

6.1. Alarm (for Sensor input) and AUX (for Relay output)

Alarm terminal at the connector panel of Network Domes is used to connect various sensing and alerting devices. Examples of sensing devices are infrared sensors, motion sensors, heat/smoke sensors, magnetic sensor, etc. Aux terminal is used for connecting alerting device such as loud speaker, flashing light, etc.

1. "ALARM" connector for Sensor Input to Network Domes

Connect the two wires of the sensors. The sensor type can be set in i-NVR.

- 1) Please run i-NVR , connect IP Speed dome camera and click on the "Virtual System Controller" button and then you will get Virtual System Controller screen
- 2) Select the "menu" button on Virtual System Controller, then OSD menus are displayed on the corresponding video display screen of the iNVR. Using the buttons on the "Virtual System Controller" select "ALARM", "ALARM NO." and then "ALARM INPUT" sequentially. The screen changes are illustrated in Fig.6-1



Fig.6-1 Setup the Sensor Type at iNVR/Virtual System Controller

Please connect sensor between “Signal” and “GND” pin of the alarm terminal at the connector panel of Network Domes

Fig. 6-2 shows equivalent alarm input circuit of Network Domes.

“+” and “-” are “Signal” and “GND”, respectively.

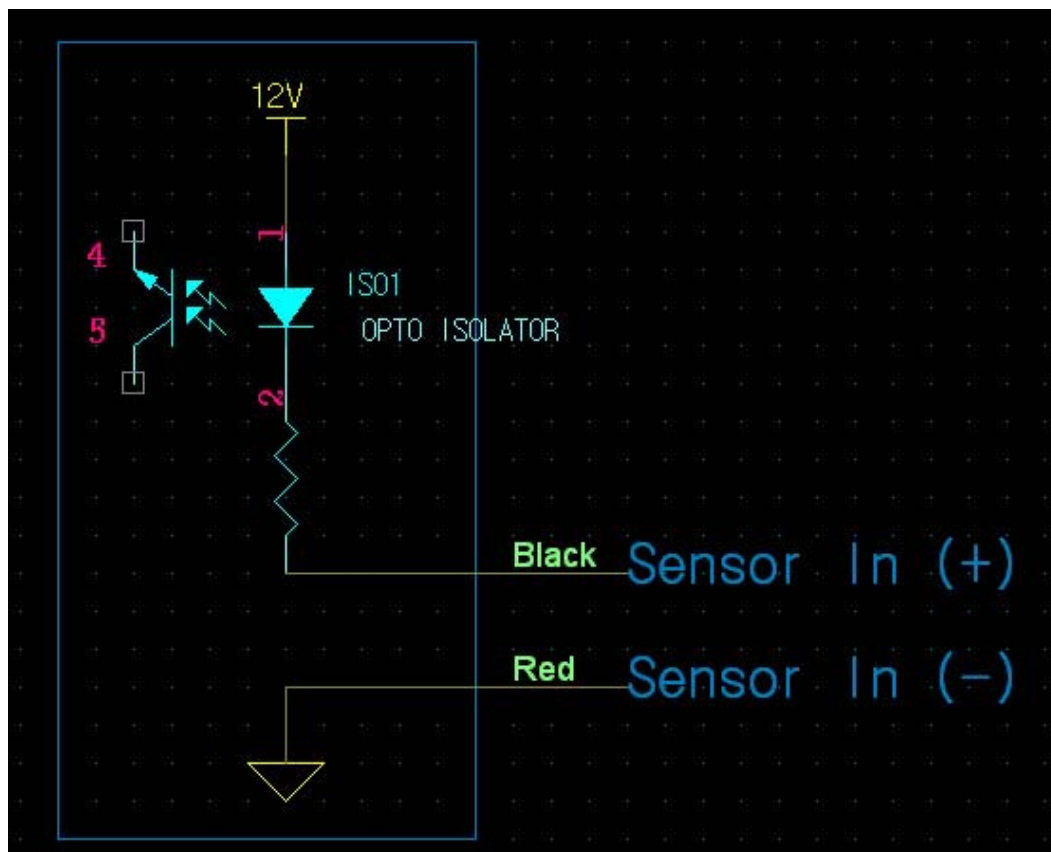


Fig. 6-2 Alarm input of Network Domes

2. “AUX” connector for Relay Output from Network Domes

A Relay output is provided for connecting alarm devices or for remote on/off devices such as light control. Relay circuits are normal open and circuits are closed upon alarm output or remote on. The relay is capable of switching AC/DC 30V, 1A electrical signal.

You can connect up to relay “AUX out through 1” and “AUX 2” at the bottom panel of Network Domes. Fig. 6-3 shows the relay output circuit which is located at the inside of Network Domes.

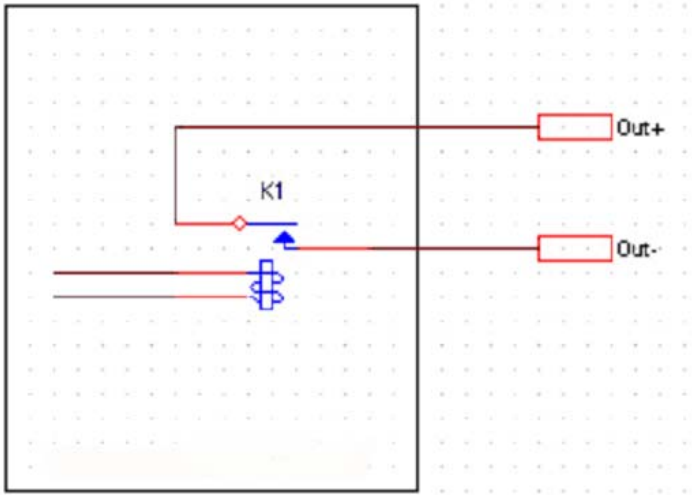


Fig. 6-3 RELAY Output of Network Domes

3. Connection of Sensor, Alarm Device

3.1 Connection of Sensor (Fig.6-4)

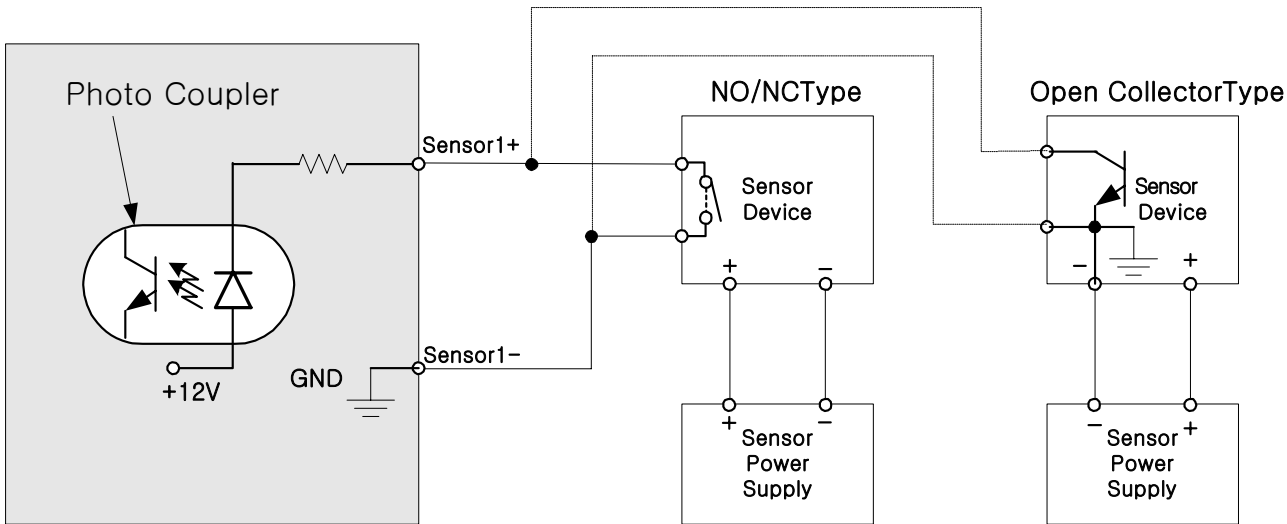


Fig. 6-4 Connection of Sensor to Network Domes

3.2 Connection of Relay(Fig.6-5)

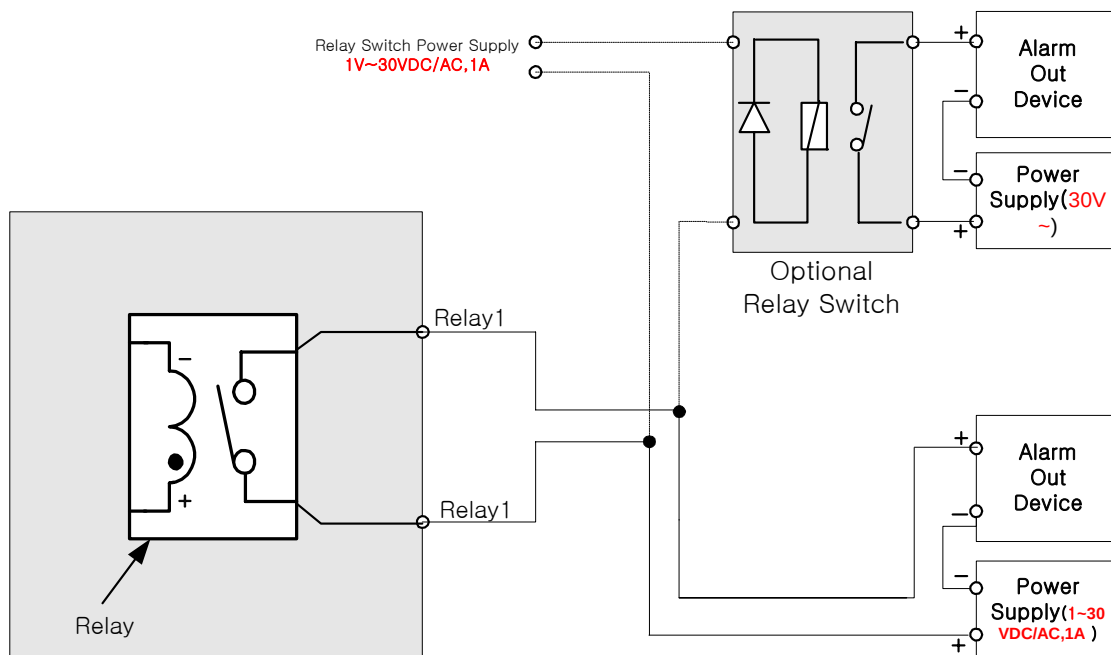


Fig. 6-5 Connection of Relay to Network Domes



You can use the supported relay output to directly drive a maximum load of 30V AC/DC at 1A. By connecting additionally relay circuitry (such as optional relay switch), it can also drive heavier loads.

6.2. Trouble Shooting

1. After Network Domes is successfully installed.

- Network Domes in viewing mode, neither channel name nor video is display and eventually timeout message is shown up.

Check the power and network connection of Network Domes.

To check if the network is properly operating, open the browser and try to connect to any server.

Example) <http://www.yahoo.com>

Or open the MS-DOS Prompt and type the following.

ping www.yahoo.com

Then press Enter. If you see the “[Reply from ...](#)” message it means that the network is working properly.

To check if the Network Domes is connected, open the MS-DOS Prompt and type the following.

ping [\[the IP of the server\]](#)

Example) ping [192.168.1.112](#)

If you see the "Reply from ..." message, it means that the server is properly connected.

If you do not see a Reply message, check if the network cable and power cable are properly connected.

2. After successfully connecting the Network Domes to IP network

• Video movement is slow.

In Basic Setup of Admin Mode, lower the "Quality". High quality means more data. You can also set the "Max. Bandwidth" to higher value. But this value must be lower than the maximum upload speed of your network. For example, if the maximum uploading bandwidth of the network is 400Kbps, set the total "Max. upload rate" as 384Kbps. If you set it higher, the video image can be corrupted with artifacts.

Ask your network manager or ISP for maximum uploading bandwidth of the network.

• The image is dull and I see green, pink dots.

This could be caused by performance limitation of the PC. Do not run too many programs while running viewer program. The other reason could be missing data while transmission from Network Domes.

• Mosaic phenomenon.

Mosaic phenomenon occurs when not enough network bandwidth is available considering the resolution and frame rate of the video.

Example is 704x480 video with low Max. Bandwidth.

Users are recommended to adjust resolution and frame rates to lower values for lower bandwidth network.

3. Additional Trouble Shooting

Problem	Solution
No operating	. Check if the power supply is AC24V. . Check if RS-485 communication cable is connected correctly. . Check camera ID setting. . Check the termination.
No picture	. Check all cable connections.
Dark screen	. Adjust the monitor status.
Abnormal camera Operation status	. Check if voltage level is out of the specification. . Check the termination.
Screen not clear	. Check if there is dust on the lens. . If exposed to excessive light, change the camera angle or location. . Adjust the lens focus again.

6.3. Web Viewer

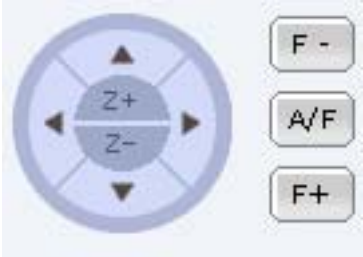
Network Domes is designed to be connected through internet explorer, too. For connection to Network Domes using internet explorer type in IP address or host address in the address input field of the internet explorer.



Fig. 6-6 Web Viewer

● Control Panel of Web Viewer

		Enable bidirectional audio. When bidirectional audio is enabled, voice from your PC is delivered to Network Domes.
		Capture and store the still image on your desk top screen.
		Connect to Network Domes in administrative mode.
		Rotate the screen by 180 degree.

		Connect to Network Domes.
		Stop the connection.
		Contrast, Brightness, and Volume adjustment.
		Check the box to mute the audio.
		Adjust the size of the screen. Normal (x1), Twice (x2), Half (1/2), Full Screen (full)
		On/off the relay by pressing the button
		Shows the status of the sensor. Blue color means that the sensor is in normal state, while red color indicates alarm situation. Number on the button indicates the number of sensor.
		Move the center of the camera in up/down/left/right directions
	Z+	Zoom in (Z+)
	Z-	Zoom out (Z-)
	F-	Move the focus to further position.
	A/F	Auto focus.
	F+	Move the focus to nearer position.

6.4. How to upgrade Network Domes firmware

Unless otherwise instructed, the owners of the Network Domes are recommended to upgrade the system when upgraded firmware is released using manual upgrade procedure.

Followings are the procedure to apply for the manual upgrade

- 1) Save the upgrade system software to your PC. Upgrade software can be downloaded from Manufacturer's home page or provided in CD.

- 2) Log on to administrative mode and select "Update & Reset" menu.
- 3) Click "Browse..." to find the files you want to use for upgrade. This will open a "Choose file" dialogue window. The file extension is "ief".
- 4) When you've found the file, click "Open." This will select the file and close the "Choose file" dialogue window.
- 5) Click the "INSTALL" button. An alert message box will pop up. Click "OK" button then it will start uploading the file. This may take some time.
- 6) Upgrade completion message will appear after the system upgrade has been completed.
- 7) Reboot Network Domes by performing "System Reset".
- 8) After rebooting, log on to the server in administrative mode again and click the "Status Report".
- 9) Check the version number and release date of the Network Domes.



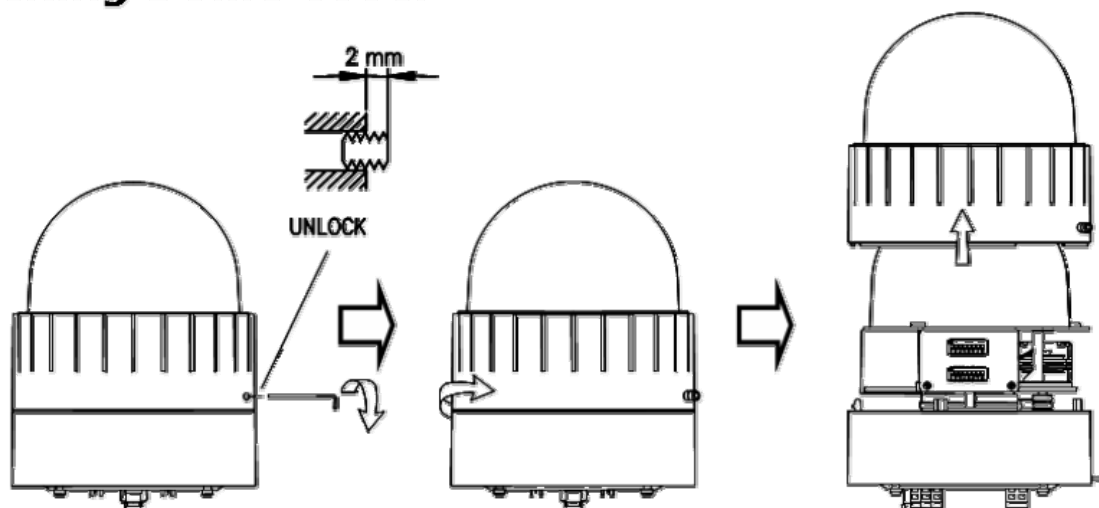
You can download Network Domes system software from Manufacturer's homepage.

Appendix 1. On Site Installation of INDOOR TYPE

A. Preparations for the installation

A-1. Open the Cover of the Dome Camera

Opening Dome Cover

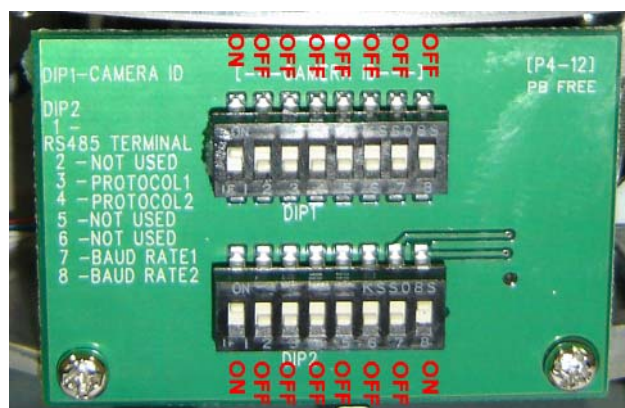


Unlock the screw

Rotate the cover to remove

A-2. Set the DIP switches as in the following picture.

DIP Switches : Make sure to set the switch positions as illustrated below.

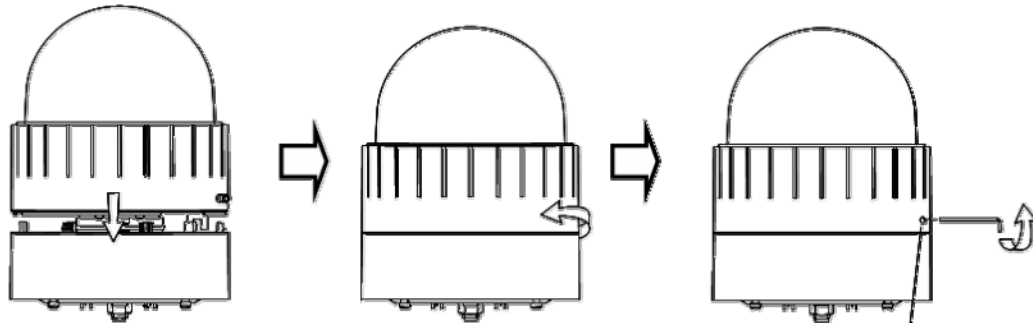


When using system controller for the control of the dome, always set the RS-485 communication channel to be :

2400 bps, 8 bit, 1 stop bit, no parity.

A-3. Place the Dome Cover.

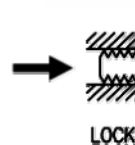
Placing Dome Cover



Place the cover & rotate to tighten

Lock the screw

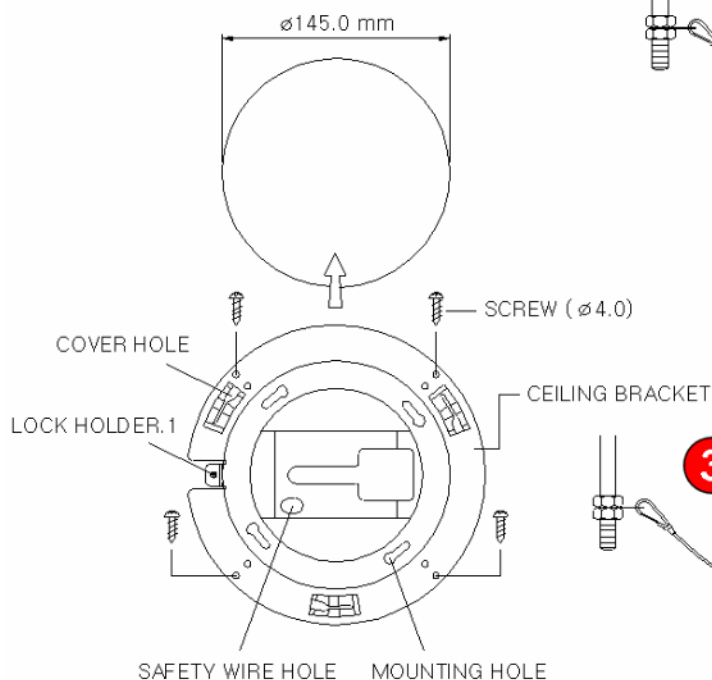
Screw head should be even with the surface when locked.



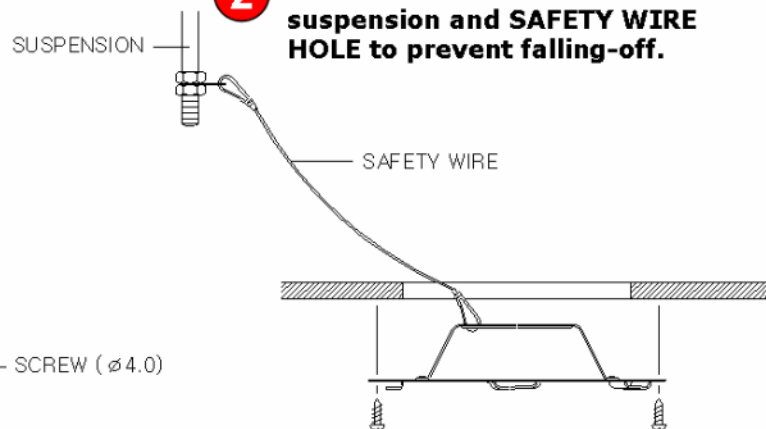
B. Installation using Ceiling Mount

Notice : Ceiling board should be strong enough to hold the weight of approx. 2kg.

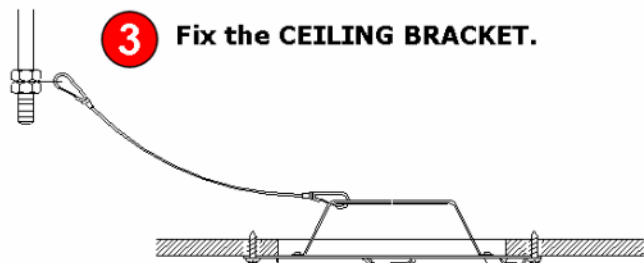
1 Prepare 145mm Diameter Hole on the Ceiling



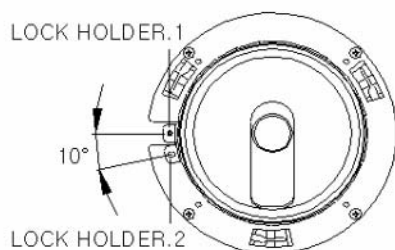
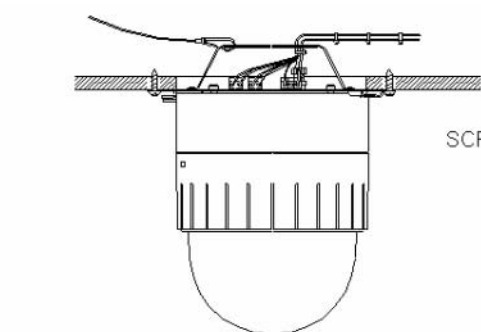
2 Place SAFETY WIRE between suspension and SAFETY WIRE HOLE to prevent falling-off.



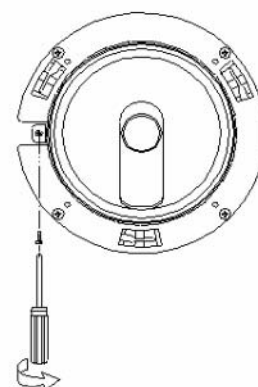
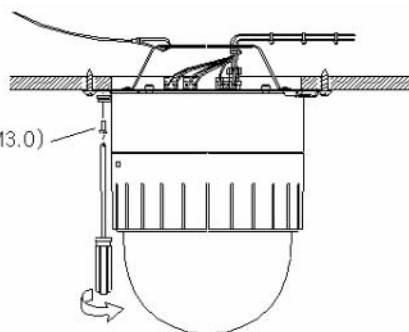
3 Fix the CEILING BRACKET.



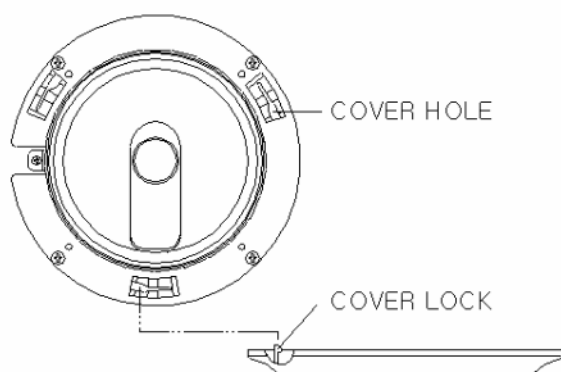
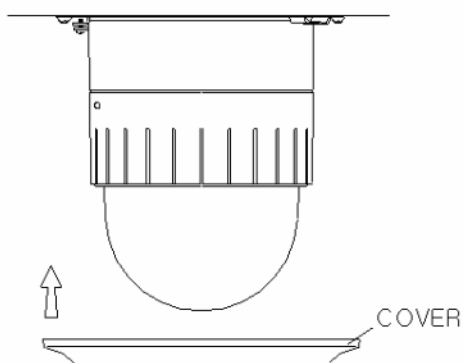
- 5 Attach the CAMERA to the CEILING MOUNT.**
TO attach the CAMERA to the CEILING MOUNT,
insert the CAMERA MOUNT HOLES
into the BRACKET MOUNT HOLES and twist
the camera by 10° toward locked position.



- 6 Place M3 screw to fix the CAMERA.**

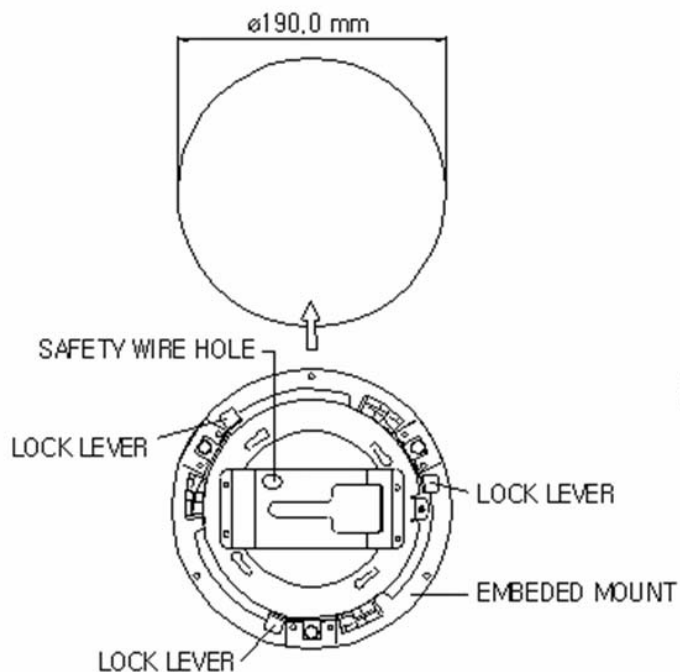


- 7 Place the cover**

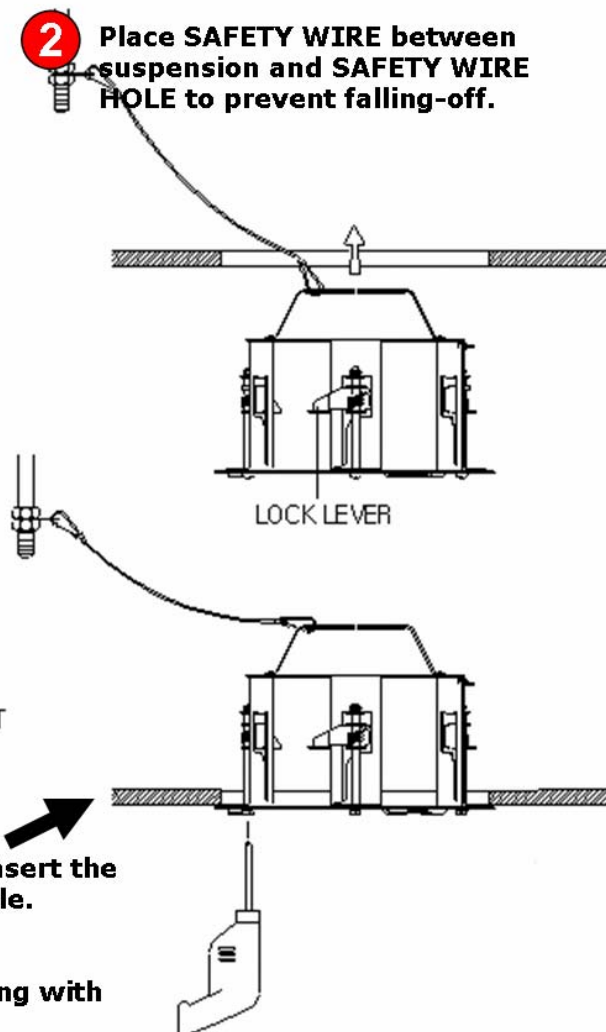


C. Installation using Embedded Mount Type

- 1 Prepare 190mm Diameter Hole on the Ceiling**



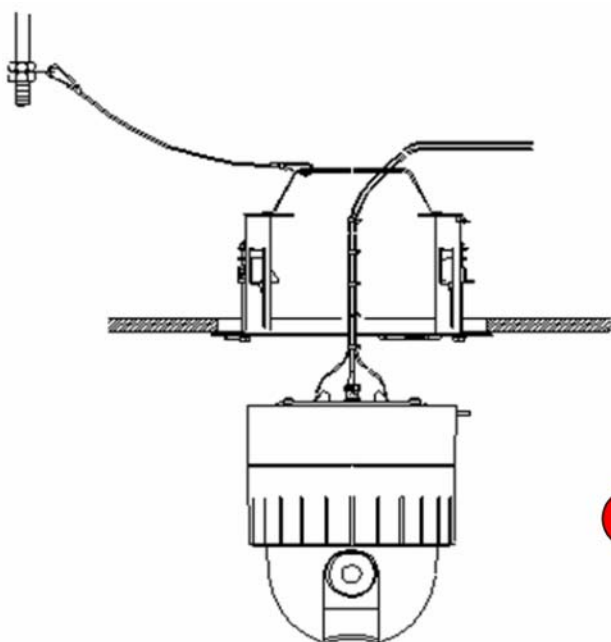
- 2 Place SAFETY WIRE between suspension and SAFETY WIRE HOLE to prevent falling-off.**



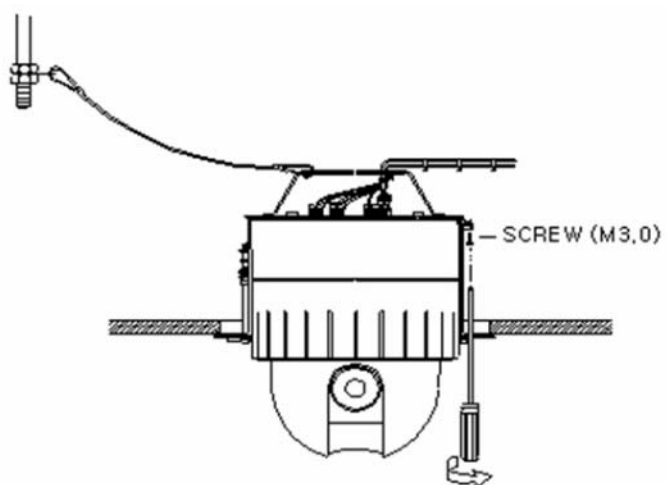
- 3 Fold the LOCK LEVERs and insert the BRACKET into the Ceiling Hole.**

- 4 Fix the BRACKET to the Ceiling with screws.**

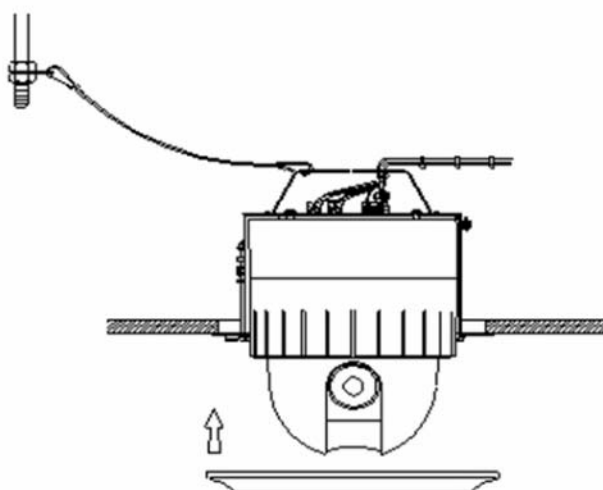
- 5** Insert the CAMERA into the MOUNT.



- 6** APPLY screw to fix the CAMERA.



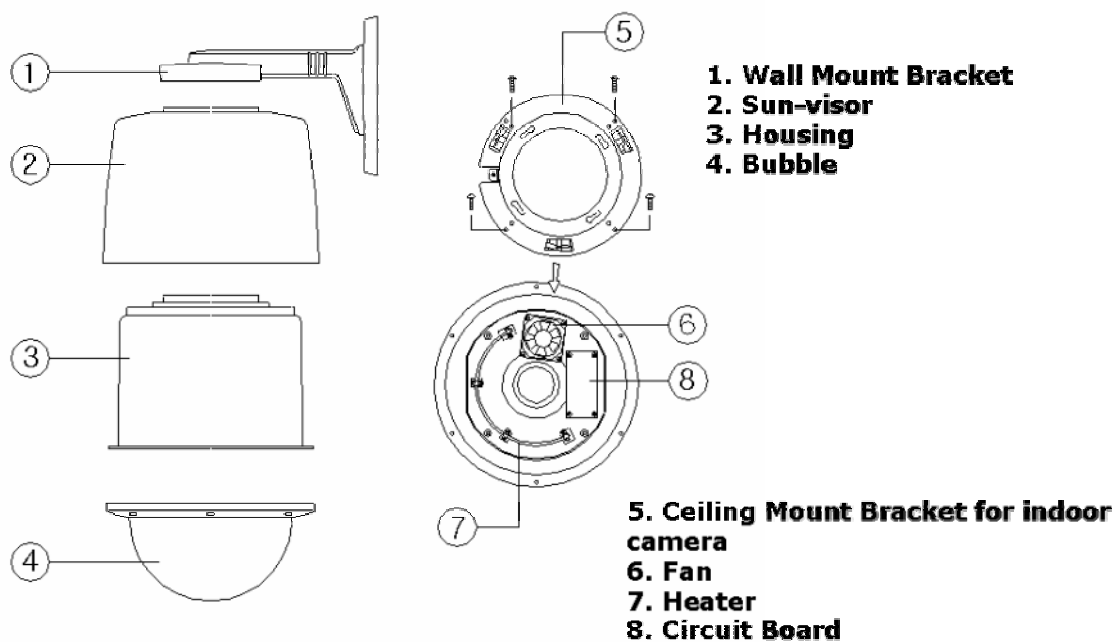
- 7** Place the COVER to finish the installation



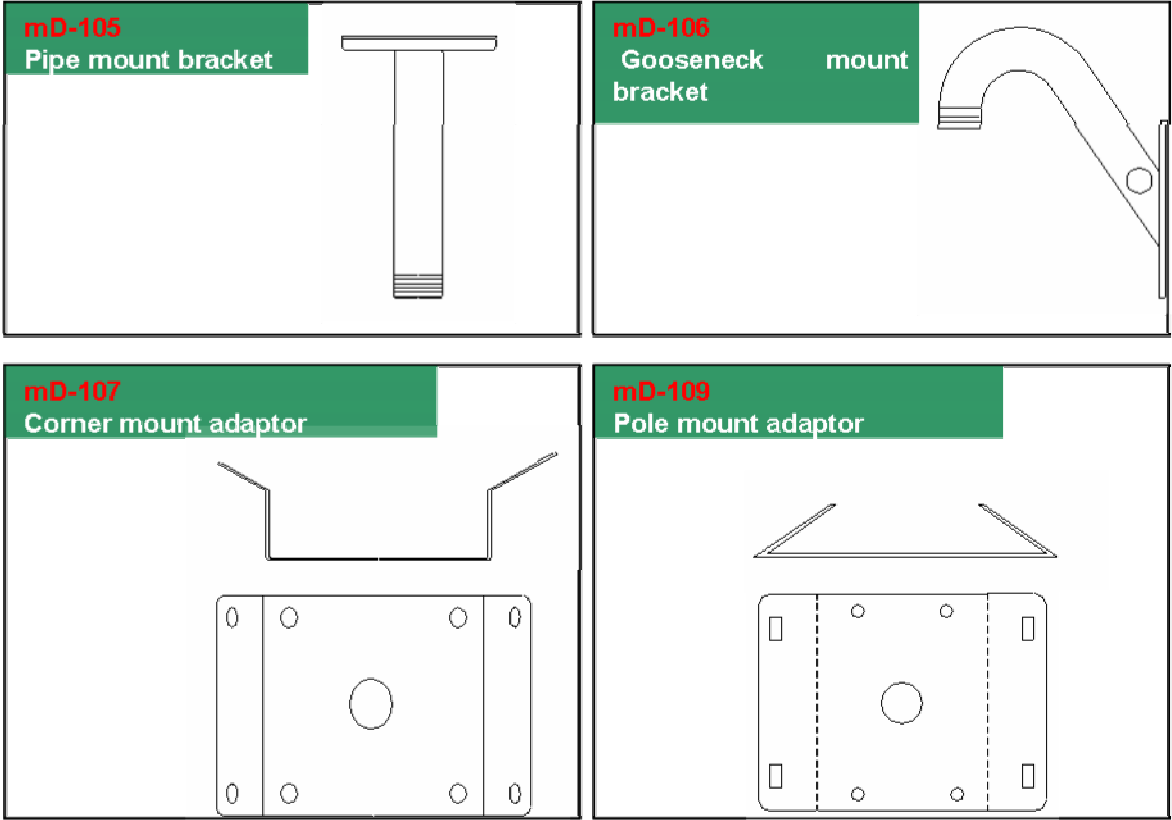
Appendix 2. On Site Installation of OUTDOOR TYPE

A. Basic Components and Mounting Accessories

A-1. Basic Components

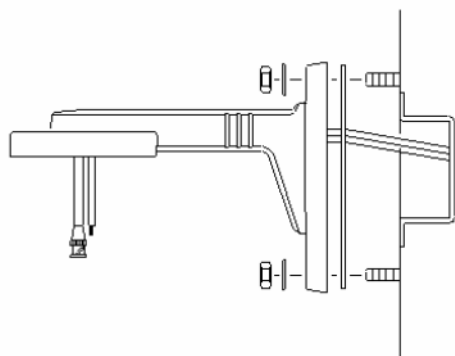


A-2. Mounting Accessories (Optional)

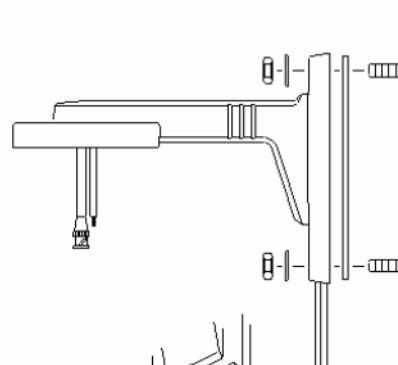


B. Wall Mounting using Wall Mount Bracket

The wall should be strong enough to hold 4 times of the weight of the camera (5.3 KG). This means that the wall should withstand weight of 21.2 KGs in the minimum.



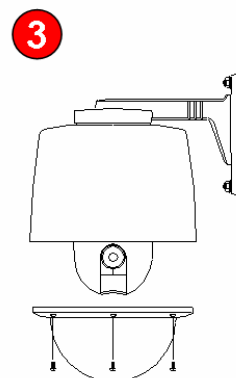
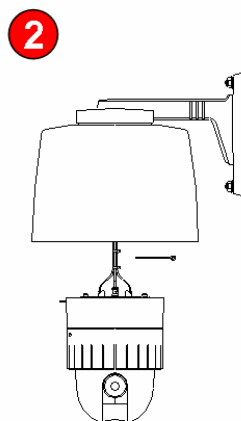
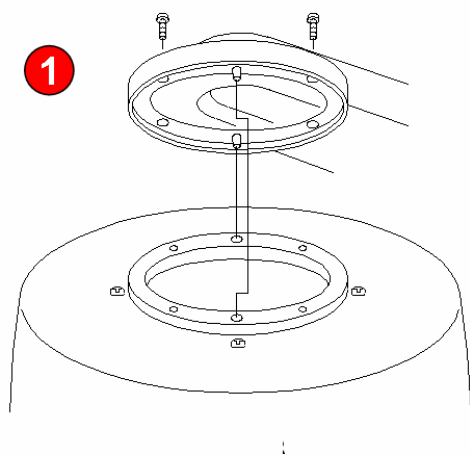
Hidden Cable



Exposed Cable

Two ways of cabling in the installation of Wall Mount Bracket

B-1. Install the Wall Mount Bracket.

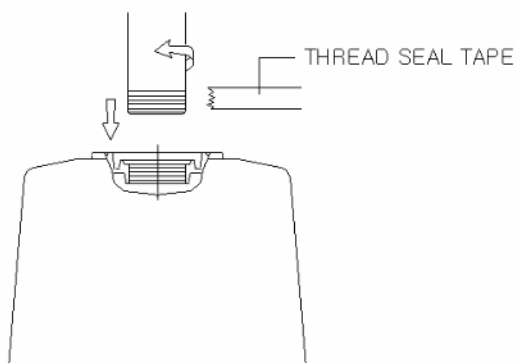


Mount (1)Sun-visor, (2)Camera, and (3)Bubble.

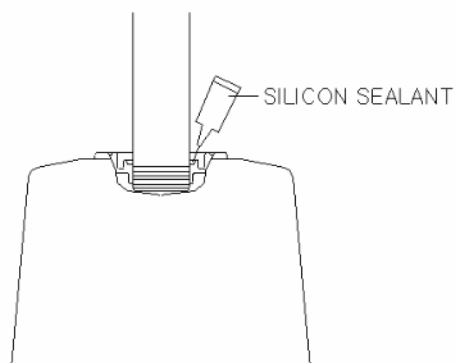
C. Pipe Mounting

C-1. Preparations for the Mounting

1 Apply SEAL TAPE around the Tab.

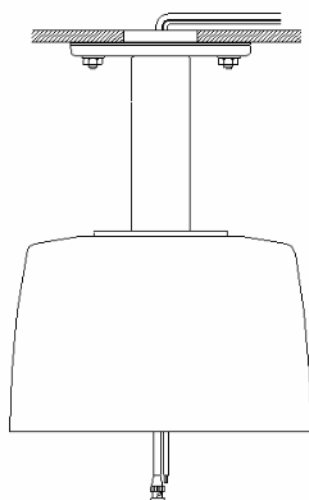


2 Apply Silicon SEALANT to the junction.

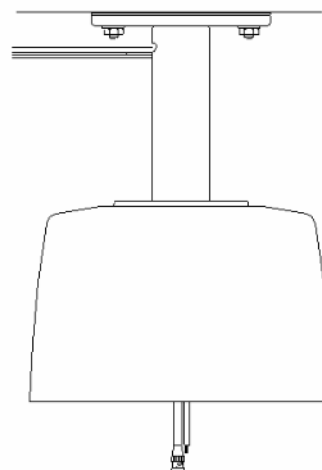


Preparation for Pipe Mount

C-2. Cabling for the Pipe Mounting



Hidden cable



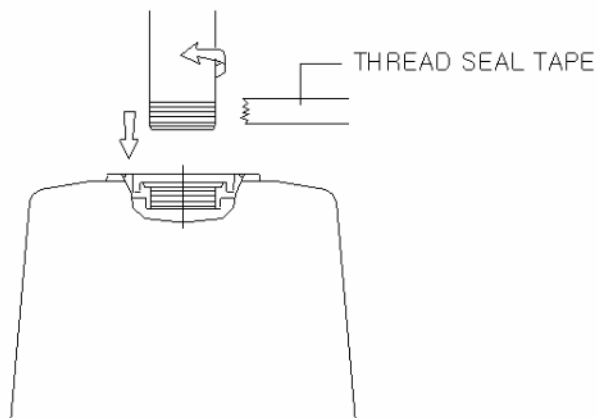
Exposed cable

Installation of Pipe Mount Bracket

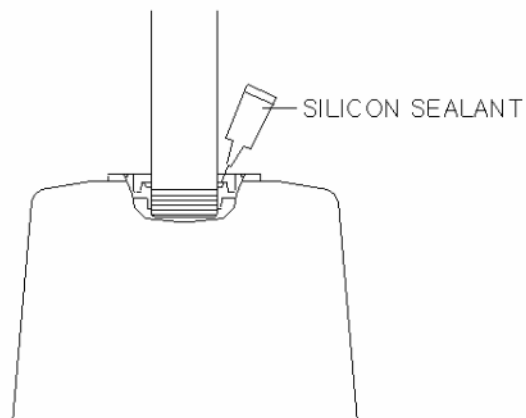
D. Gooseneck Mounting

D-1. Preparations for the Mounting

1 Apply SEAL TAPE around the Tab.

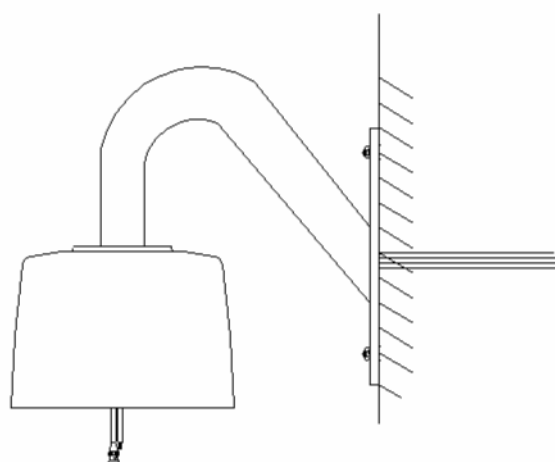


2 Apply Silicon SEALANT to the junction.



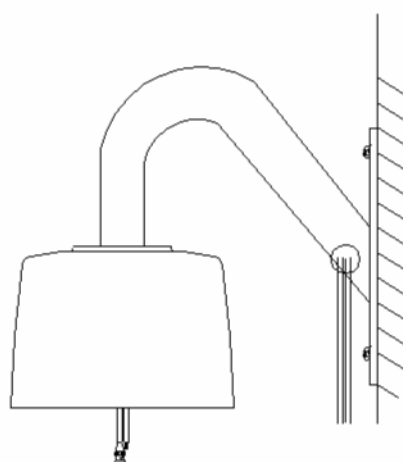
Preparation for Gooseneck Mount

D-2. Cabling for the Gooseneck Mounting



Hidden cable

FIG.8

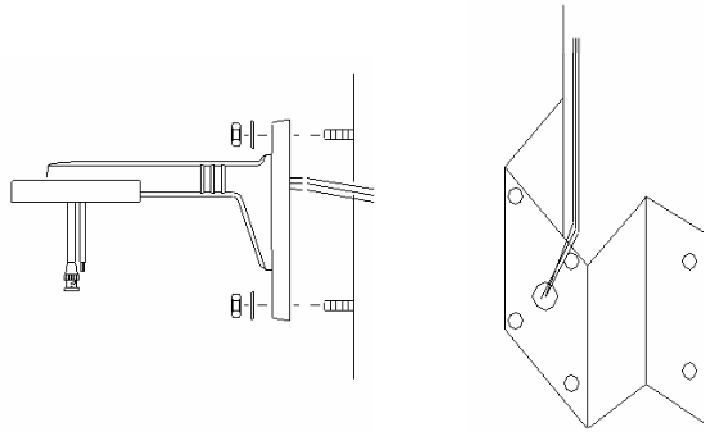


Exposed cable

Installation of Gooseneck Mount Bracket

E. Corner Mounting

E-1. Install a corner mount adaptor on the corner of wall.

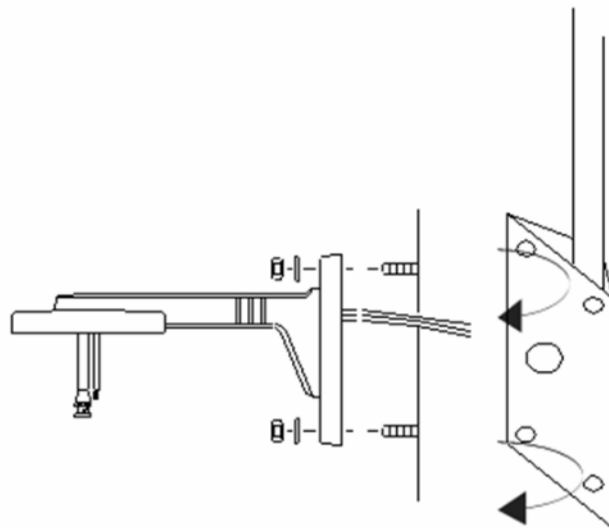


Installation of Corner Mount Adaptor

E-2. Use wall or gooseneck mount bracket to finish installation.

F. Pole Mounting

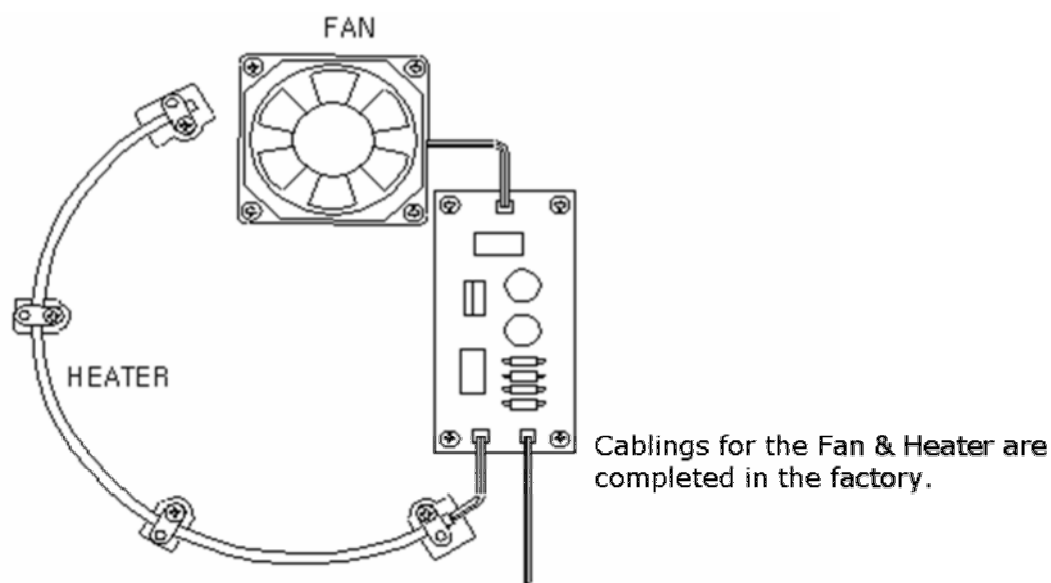
F-1. Install a pole mount adaptor on the pole.



Installation of Pole Mount Adaptor

F-2. Use wall or gooseneck mount bracket to finish installation

G. Fan & Heater



H. Specifications and Dimension of Outdoor Housing

H-1. Specifications

Specification	Description
Heater control temperature	On: below 10℃ , Off: over 15℃
Fan control temperature	On: over 45℃ , Off: below 35℃
Operating temperature	-40℃ ~ +60℃
Operating humidity	Below 90%
Waterproof Capacity	IP 66
Construction	Poly Carbonate (Bubble), Aluminum (Body)
Dimensions	253Ø(diameter) x 307mm(Height) x 190Ø(Bubble)
Power Consumption	18W Max (With Camera: 43W Max)
Power Supply	AC 24V 1A, 60 / 50Hz (AC24V 2A with camera)
Weight	3.4kg (With Camera : 5.3kg)

H-2. Dimension of Outdoor Housing

